Economic Report of the President

Transmitted to the Congress
February 1999

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TOGETHER WITH

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OF THE

COUNCIL OF ECONOMIC ADVISERS

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ECONOMIC REPORT OF THE PRESIDENT

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To the Congress of the United States:

I am pleased to report that the American economy today is healthy and strong. Our Nation is enjoying the longest peacetime economic expansion in its history, with almost 18 million new jobs since 1993, wages rising at twice the rate of inflation, the highest home ownership ever, the smallest welfare rolls in 30 years, and unemployment and inflation at their lowest levels in three decades.

This expansion, unlike recent previous ones, is both wide and deep. All income groups, from the richest to the poorest, have seen their incomes rise since 1993. The typical family income is up more than $3,500, adjusted for inflation. African-American and Hispanic households, who were left behind during the last expansion, have also seen substantial increases in income.

Our Nation's budget is balanced, for the first time in a generation, and we are entering the second year of an era of surpluses: our projections show that we will close out the 1999 fiscal year with a surplus of $79 billion, the largest in the history of the United States. We are on course for budget surpluses for many years to come.

These economic successes are not accidental. They are the result of an economic strategy that we have pursued since 1993. It is a strategy that rests on three pillars: fiscal discipline, investments in education and technology, and expanding exports to the growing world market. Continuing with this proven strategy is the best way to maintain our prosperity and meet the challenges of the 21st century.

THE ADMINISTRATION'S ECONOMIC AGENDA

Our new economic strategy was rooted first and foremost in fiscal discipline. We made hard fiscal choices in 1993, sending signals to the market that we were serious about dealing with the budget deficits we had inherited. The market responded by lowering long-term interest rates. Lower interest rates in turn helped more people buy homes and borrow for college, helped more entrepreneurs to start businesses, and helped more existing businesses to invest in new technology and equipment. America's economic success has been fueled by the biggest boom in private sector investment in decades—more than $1 trillion in capital was freed for private sector investment. In past expansions, government bought more and spent more to drive the economy. During this expansion, government spending as a share of the economy has fallen.

The second part of our strategy has been to invest in our people. A global economy driven by information and fast-paced technological change creates ever greater demand for skilled workers. That is why, even as we balanced the budget, we substantially increased our annual investment in education and training. We have opened the doors of college to all Americans, with tax credits and more affordable student loans, with more work-study grants and more Pell grants, with education IRAs and the new HOPE Scholarship tax credit that more than 5 million Americans will receive this year. Even as we closed the budget gap, we have expanded the earned income tax credit for almost 20 million low-income working families, giving them hope and helping lift them out of poverty. Even as we cut government spending, we have raised investments in a welfare-to-work jobs initiative and invested $24 billion in our children's health initiative.

Third, to build the American economy, we have focused on opening foreign markets and expanding exports to our trading partners around the world. Until recently, fully one-third of the strong economic growth America has enjoyed in the 1990s has come from exports. That trade has been aided by 270 trade agreements we have signed in the past 6 years.

ADDRESSING OUR NATION'S ECONOMIC CHALLENGES

We have created a strong, healthy, and truly global economy—an economy that is a leader for growth in the world. But common sense, experience, and the example of our competitors abroad show us that we cannot afford to be complacent. Now, at this moment of great plenty, is precisely the time to face the challenges of the next century.

We must maintain our fiscal discipline by saving Social Security for the 21st century—thereby laying the foundations for future economic growth.

By 2030, the number of elderly Americans will double. This is a seismic demographic shift with great consequences for our Nation. We must keep Social Security a rock-solid guarantee. That is why I proposed in my State of the Union address that we invest the surplus to save Social Security. I proposed that we commit 62 percent of the budget surplus for the next 15 years to Social Security. I also proposed investing a small portion in the private sector. This will allow the trust fund to earn a higher return and keep Social Security sound until 2055.

But we must aim higher. We should put Social Security on a sound footing for the next 75 years. We should reduce poverty among elderly women, who are nearly twice as likely to be poor as other seniors. And we should eliminate the limits on what seniors on Social Security can earn. These changes will require difficult but fully achievable choices over and above the dedication of the surplus.

Once we have saved Social Security, we must fulfill our obligation to save and improve Medicare and invest in long-term health care. That is why I have called for broader, bipartisan reforms that keep Medicare secure until 2020 through additional savings and modernizing the program with market-oriented purchasing tools, while also providing a long-overdue prescription drug benefit.

By saving the money we will need to save Social Security and Medicare, over the next 15 years we will achieve the lowest ratio of publicly held debt to gross domestic product since 1917. This debt reduction will help keep future interest rates low or drive them even lower, fueling economic growth well into the 21st century.

To spur future growth, we must also encourage private retirement saving. In my State of the Union address I proposed that we use about 12 percent of the surplus to establish new Universal Savings Accounts—USA accounts. These will ensure that all Americans have the means to save. Americans could receive a flat tax credit to contribute to their USA accounts and additional tax credits to match a portion of their savings—with more help for lower income Americans. This is the right way to provide tax relief to the American people.

Education is also key to our Nation's future prosperity. That is why I proposed in my State of the Union address a plan to create 21st-century schools through greater investment and more accountability. Under my plan, States and school districts that accept Federal resources will be required to end social promotion, turn around or close failing schools, support high-quality teachers, and promote innovation, competition, and discipline. My plan also proposes increasing Federal investments to help States and school districts take responsibility for failing schools, to recruit and train new teachers, to expand after school and summer school programs, and to build or fix 5,000 schools.

At this time of continued turmoil in the international economy, we must do more to help create stability and open markets around the world. We must press forward with open trade. It would be a terrible mistake, at this time of economic fragility in so many regions, for the United States to build new walls of protectionism that could set off a chain reaction around the world, imperiling the growth upon which we depend. At the same time, we must do more to make sure that working people are lifted up by trade. We must do more to ensure that spirited economic competition among nations never becomes a race to the bottom in the area of environmental protections or labor standards.

Strengthening the foundations of trade means strengthening the architecture of international finance. The United States must continue to lead in stabilizing the world financial system. When nations around the world descend into economic disruption, consigning populations to poverty, it hurts them and it hurts us. These nations are our trading partners; they buy our products and can ship low-cost products to American consumers.

The U.S. proposal for containing financial contagion has been taken up around the world: interest rates are being cut here and abroad, America is meeting its obligations to the International Monetary Fund, and a new facility has been created at the World Bank to strengthen the social safety net in Asia. And agreement has been reached to establish a new precautionary line of credit, so nations with strong economic policies can quickly get the help they need before financial problems mushroom from concerns to crises.

We must do more to renew our cities and distressed rural areas. My Administration has pursued a new strategy, based on empowerment and investment, and we have seen its success. With the critical assistance of Empowerment Zones, unemployment rates in cities across the country have dropped dramatically. But we have more work to do to bring the spark of private enterprise to neighborhoods that have too long been without hope. That is why my budget includes an innovative "New Markets" initiative to spur $15 billion in new private sector capital investment in businesses in underserved areas through a package of tax credits and guarantees.

GOING FORWARD TOGETHER IN THE 21ST CENTURY

Now, on the verge of another American Century, our economy is at the pinnacle of power and success, but challenges remain. Technology and trade and the spread of information have transformed our economy, offering great opportunities but also posing great challenges. All Americans must be equipped with the skills to succeed and prosper in the new economy. America must have the courage to move forward and renew its ideas and institutions to meet new challenges. There are no limits to the world we can create, together, in the century to come.

William J. Clinton

THE WHITE HOUSE
FEBRUARY 4, 1999

THE ANNUAL REPORT
OF THE
COUNCIL OF ECONOMIC ADVISERS

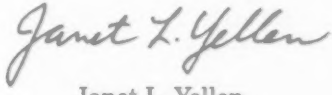
LETTER OF TRANSMITTAL

COUNCIL OF ECONOMIC ADVISERS
Washington, D.C., February 4, 1999

MR. PRESIDENT:

The Council of Economic Advisers herewith submits its 1999 Annual Report in accordance with the provisions of the Employment Act of 1946 as amended by the Full Employment and Balanced Growth Act of 1978.

Sincerely,



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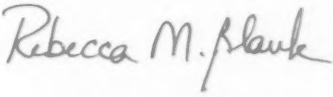

Rebecca M. Blank,
Member

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CHAPTER 1

Meeting Challenges and Building for the Future

THE ECONOMIC POLICIES of the past 6 years have nurtured and sustained what is now the longest peacetime expansion on record. By December 1998, the 93rd month since the bottom of the last recession, 18.8 million jobs had been created (17.7 million of them since January 1993). More Americans are working than ever before, the unemployment rate is the lowest in a generation, and inflation remains tame. This record of achievement is especially noteworthy in light of the troubles experienced in the international economy in 1998. The United States has not entirely escaped the effects of this turmoil—and calm has not been restored completely abroad. But the fundamental soundness of the U.S. economy prevented it from foundering in 1998's storms.

This Administration laid a strong policy foundation for growth in 1993 when the President put in place an economic strategy grounded in deficit reduction, targeted investments, and opening markets abroad. Since then the Federal budget deficit has come down steadily, and in 1998 the budget was in the black for the first time since 1969. This policy of fiscal discipline, together with an appropriately accommodative monetary policy by the Federal Reserve, produced a favorable climate for business investment and a strong, investment-driven recovery from the recession and slow growth of the early 1990s. Even while reducing Federal spending as a share of gross domestic product (GDP), the Administration has pushed for more spending in critical areas such as education and training, helping families and children, the environment, health care, and research and development. And although international economic conditions have led to a dramatic widening of the trade deficit, the United States has succeeded in expanding exports in real (inflation-adjusted) terms by almost 8 percent per year since 1993.

Clearly, there is much for Americans to be proud of in the economic accomplishments of the past 6 years. But as recent events in the rest of the world have reminded us, our prosperity is threatened when the global economy does not function well. Our immediate challenge on the international front is to help ensure that the global economy rebounds and begins to regain strength. Our longer run challenge as we enter the 21st century will be to continue to build and refine the

international economic arrangements within which countries can embrace opportunities to grow and develop through international trade and investment.

Challenges remain at home as well. The restoration of fiscal discipline is one of the most important accomplishments of the past 6 years. But one very important challenge in the years ahead will be to maintain that discipline and to ensure that fiscal policy contributes to preparing the country for the demographic challenges it faces in the next century. That is why, in his 1998 State of the Union address, the President called for reserving the future budget surpluses until Social Security is reformed. In this year's State of the Union message, the President put forward his framework for saving Social Security while meeting the other pressing challenges of the 21st century.

A second major development of the past 6 years has been the reform of the Nation's welfare system, which, together with the strong economy, has produced a dramatic reduction in welfare case loads. Here the challenge will be to continue to make work pay for all Americans who play by the rules and want to work, while preserving an adequate safety net. Finally, the strength of the American economy over the past 6 years should not blind us to the inevitability of change and the threat of disruption that is always present in a dynamic market economy. For example, difficult agricultural conditions in 1998 put stress on the new, market-oriented farm policy enacted in 1996. Similarly, the ongoing wave of mergers among large companies in the financial, telecommunications, and other industries has raised questions about the disruptions these reorganizations cause for communities and workers—questions that go beyond traditional antitrust concerns. Such questions may be better addressed by broader policies such as maintaining full employment and promoting education and training. The challenge here is to capture the long-run benefits from productivity-enhancing change without ignoring the short-run costs to those hurt by that change.

This chapter provides an overview of these challenges and the Administration's responses. First, however, we provide some background by putting the current economic expansion in its historical context.

POLICY LESSONS FROM THREE LONG EXPANSIONS

The current economic expansion is only the third that has lasted at least 7 years, according to business-cycle dating procedures that have been applied back to 1854 (Box 1-1). It is useful to review and compare the histories of each of these long expansions in order to understand the role of macroeconomic policy in promoting balanced and noninflationary growth.

Box 1-1.—The Dating of Business Cycles

Although all signs indicate that the current economic expansion has continued into 1999, its precise length will not be known until some time after it has ended. The dating of business cycles is not an official U.S. Government function. Instead, once it has become clear that the economy has reversed direction, the Business Cycle Dating Committee of the National Bureau of Economic Research (NBER) meets to determine the turning point for historical and statistical purposes. For example, the July 1990 business-cycle peak was announced April 25, 1991, and the March 1991 trough was announced December 22, 1992. A popular recession indicator is two consecutive quarters of decline in real GDP, but the NBER does not use this approach. Rather, it defines a recession as a recurring period of decline in total output, income, employment, and sales, usually lasting from 6 months to a year.

The Employment Act of 1946 (which created the Council of Economic Advisers) established a policy framework in which the Federal Government is responsible for trying to stabilize short-run economic fluctuations, promote balanced and noninflationary economic growth, and foster low unemployment. Although the U.S. economy has continued to experience fluctuations in output and employment in the more than half a century since then, it has avoided anything like the prolonged contraction of 1873-79, or the 30 percent contraction in output and 25 percent unemployment rate of the Great Depression. Moreover, the three longest expansions of the past century—including the current one—have all occurred since the Employment Act was passed.

Each of these three long expansions can be interpreted as an experiment in macroeconomic policy. The longest—the expansion of 1961-69, which lasted 106 months—was associated with the first self-consciously Keynesian approach to economic policy. It was also associated with Vietnam War spending. The longest peacetime expansion before the current one was the expansion of 1982-90, which lasted 92 months. Although the economic philosophy underlying the policies of that period is often characterized as anti-Keynesian, this expansion, too, featured a stimulative fiscal policy. The current expansion is the only one of the three in which fiscal policy was *contractionary* rather than expansionary, reflecting the budget situation at the time and the view that fiscal discipline would lower interest rates and spur long-term economic growth.

KEYNESIAN ACTIVISM IN THE 1961-69 EXPANSION

In the early 1960s the Council of Economic Advisers advocated activist macroeconomic policies based on the ideas of the British economist John Maynard Keynes. The Council diagnosed the economy at

that time as suffering from "fiscal drag" arising from a large structural budget *surplus*. (The structural budget balance is the deficit or surplus that would arise from the prevailing fiscal stance if the economy were operating at full capacity.) The marginal tax rates then in effect, which were far higher than today's, were seen as causing tax revenues to rise rapidly as the economy approached full employment, draining purchasing power and slowing demand before full employment could be achieved. The problem was not the fact that Federal Government receipts and expenditures were sensitive to changes in economic activity—this sensitivity plays an important automatic stabilizing role, particularly when economic activity falters, as reduced tax payments and increased unemployment compensation help preserve consumers' purchasing power. The problem was that the automatic stabilizers kicked in too strongly on the upside, not only preventing the economy from reaching full employment but also, ironically, preventing the actual budget from balancing. Thus, President John F. Kennedy proposed a tax cut in 1962, which was enacted in 1964, after his death.

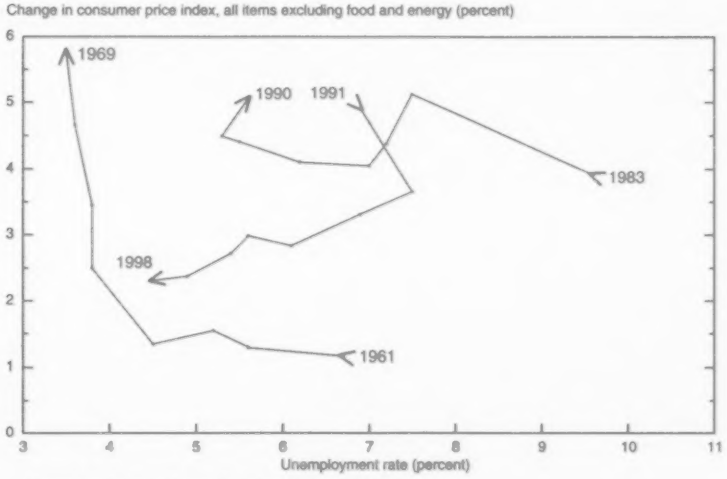
This tax cut provided further stimulus to the economic recovery that had begun in 1961. The unemployment rate continued to fall, until early in 1966 it dropped below the 4 percent rate that was considered full employment at the time. Inflation had been edging up as the unemployment rate came down, but it then began to rise sharply (Chart 1-1). Although the changed conditions appeared to call for fiscal restraint, President Lyndon B. Johnson was reluctant to raise taxes or scale back his Great Society spending initiatives. Meanwhile Vietnam War spending continued to provide further stimulus.

At the time, policymakers believed that the rise in inflation could be unwound simply by moving the economy back to 4 percent unemployment, but when restraint was finally applied it produced a rise in unemployment with little reduction in inflation. This so-called stagflation, together with a slowdown in productivity and a series of oil price shocks in the 1970s, dealt a serious setback to the prevailing view among economists that economic policy could be easily adjusted to achieve the goals of the Employment Act.

THE SUPPLY-SIDE REVOLUTION AND THE 1982-90 EXPANSION

At the beginning of the Administration of President Ronald Reagan in 1981, the economy was bouncing back from the short 1980 recession, but it was also experiencing very high inflation. President Reagan's program for economic recovery called for large tax cuts, increased defense spending, and reduced domestic spending. Although advocates of these policies invoked the 1964 tax cut as precedent, the justification offered for this policy was not Keynesian demand stimulus. Rather it was the "supply-side" expectation that substantial cuts in marginal tax rates would call forth so much new work effort and investment that

Chart 1-1 **Core Inflation and Unemployment in Three Long Expansions**
Inflation rose late in both the 1960s and 1980s expansions, but inflation has remained low in the current expansion.



Source: Department of Labor (Bureau of Labor Statistics).

the economy's potential output would grow rapidly, easing inflationary pressure and bringing in sufficient new revenue to keep the budget deficit from increasing. In the short run, however, this expansionary fiscal policy collided with an aggressive anti-inflationary monetary policy on the part of the Federal Reserve. The budget deficit ballooned in the deep recession of 1981-82, and it stayed large even after the Federal Reserve eased and the economy began to recover.

Compared with the 1961-69 expansion, the 1982-90 expansion was marked by higher levels of both inflation and unemployment. But the main distinguishing feature of this expansion was the large Federal budget deficits and their macroeconomic consequences. In the early 1980s the combination of an expansionary fiscal policy and a tight monetary policy produced high real interest rates, an appreciating dollar, and a large current account deficit. (The current account, which includes investment income and unilateral transfers, is a broader measure of a country's international economic activity than the more familiar trade balance.) Although borrowing from abroad offset some of the drain on national saving that the budget deficit represented, and prevented the sharp squeeze on domestic investment that would have taken place in an economy closed to trade and foreign capital flows, the effect of this policy choice was a decline in net national saving and investment after 1984. As in the 1961-69 expansion, inflation began to rise as the economy moved toward high employment. By this time, however, the prevailing view was that inflation could not be reversed

simply by returning to the full-employment unemployment rate (Box 1-2). Instead the economy would have to go through a period of subnormal growth in order to squeeze out inflation.

Box 1-2.—Full Employment and the NAIRU

Maintaining full employment is a major goal of macroeconomic policy, but how exactly is that objective defined? The prevailing view in the 1960s was that lower unemployment rates were associated with higher rates of inflation, and that full employment was defined by the unemployment rate associated with a tolerable inflation rate. At that time, the full-employment unemployment rate was thought to be about 4 percent. The experience of the 1970s helped persuade economists that, once the unemployment rate dropped below a certain level, prices would not just rise but accelerate (that is, the inflation rate would rise). The full-employment unemployment rate came to be defined as the nonaccelerating-inflation rate of unemployment, or NAIRU.

Statistical studies suggest that the NAIRU was higher from the mid-1970s through the 1980s than it was in the 1960s and that it has come down somewhat in the 1990s. This evolution has been attributed to a variety of factors, including changes in the demographics of the labor force. For example, the United States now has a more mature labor force, as a consequence of the aging of the baby-boom generation, and more mature workers tend to experience less unemployment than younger ones. Although the NAIRU is an indicator of the risk of inflation, estimates of the NAIRU have a wide band of uncertainty and should be used carefully in formulating policy. The NAIRU implicit in the Administration's forecast has drifted down in recent years and is now within a range centered on 5.3 percent.

DEFICIT REDUCTION AND THE CURRENT EXPANSION

The economy was out of the 1990-91 recession when President Bill Clinton took office, but the recovery was weak and job growth appeared slow. Budget deficits were very large, partly because of the recession but also because the structural deficit remained large. The President's economic program sought to get the economy moving again while bringing the budget deficit under control. It was based on the idea that reducing the Federal budget deficit would bring down interest rates and stimulate private investment. With a responsible fiscal policy in place, and with favorable developments in inflation and productivity, the decline in the unemployment rate to less than 5 percent did not lead to interest rate hikes that could have choked off the

expansion prematurely. In fact, the economy witnessed a combination of low consumer price inflation and low unemployment that compared favorably with the low "misery index" achieved in the late 1960s. (The misery index is the sum of the inflation and unemployment rates.) This time, however, inflation is tame rather than rising.

Judged by the objectives of stabilization policy (inflation and unemployment), the current economic expansion has been very successful (Table 1-1). Three-quarters of the way through the eighth year of expansion, inflation remains low even though the unemployment rate has been below most estimates of the NAIRU. This situation stands in marked contrast to the sharply rising inflation experienced at the end of

TABLE 1-1.— *Stabilization Policy Indicators in Three Long Expansions*

Item	First 6 years	7th year	Last 12 months
1961-69			
Core inflation rate[1]	1.8	4.4	5.9
Unemployment rate[2]	5.1	3.8	3.5
1982-90			
Core inflation rate[1]	4.4	4.4	5.1
Unemployment rate[2]	7.2	5.3	5.3
1991-present[3]			
Core inflation rate[1]	3.1	2.3	2.5
Unemployment rate[2]	6.3	4.8	4.5

[1] Average annual percent change in the consumer price index for all items excluding food and energy.
[2] Average rate for the period (percent).
[3] Through December 1998.

Note. Based on seasonally adjusted data.

Sources: Department of Labor (Bureau of Labor Statistics) and National Bureau of Economic Research.

the 1960s expansion and the milder price acceleration seen at the end of the 1980s expansion. To be sure, this good inflation performance has been aided by favorable conditions such as a continuing sharp decline in computer prices, a drop in oil prices, rapid growth of industrial capacity, and downward pressure on prices of traded goods due to weakness in the world economy. And, as discussed in Chapter 2 of this Report, the Administration (as well as the consensus of private forecasts) projects a moderating of growth over the next 2 years. What is significant, however, is that the actions taken over the past 6 years to reduce the budget deficit created conditions in which the Federal Reserve could accommodate steady noninflationary growth. And, of course, the strong economic performance helped improve the budget balance even further.

Growth in GDP has also been solid. With slower growth in the working-age population and slower trend productivity growth since the early 1970s, it is understandable that GDP has grown more slowly

than it did in the 1960s (Table 1-2). Moreover, growth over the 1980s expansion partly reflects how far below potential output the economy was at the start of that expansion, which followed a deep recession, rather than a particularly strong underlying growth trend. Finally, growth in aggregate income matters for some purposes, but productivity growth is what matters for real wages and a rising standard of living over the longer term. And productivity growth has continued relatively strong well into this expansion—it has not exhibited the decline that often occurs late in expansions. Nevertheless, the rate of productivity growth over this expansion remains well below that achieved in the 1960s, before the productivity slowdown.

TABLE 1-2.—*Economic Growth Indicators in Three Long Expansions*
[Average annual percent change]

Item	From trough	From previous peak[1]
1961-69		
Real GDP	4.8	4.3
Civilian noninstitutional population	1.5	1.5
Civilian labor force	1.7	1.7
Nonfarm business sector productivity	3.0	2.8
1982-90		
Real GDP	3.7	2.6
Civilian noninstitutional population	1.2	1.2
Civilian labor force	1.6	1.6
Nonfarm business sector productivity	1.3	1.0
1991-present[2]		
Real GDP	3.0	2.6
Civilian noninstitutional population	1.0	1.0
Civilian labor force	1.2	1.1
Nonfarm business sector productivity	1.5	1.4

[1] Peaks of 1960 II, 1980 I, and 1990 III.
[2] Through 1998 III.

Note. Based on seasonally adjusted data, except population.

Sources: Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), and National Bureau of Economic Research.

Relatively slow productivity growth continues to prevent the kind of wage and income growth that produced a doubling in living standards between 1948 and 1973. As discussed in Chapter 3, however, the sustained tight labor market that this expansion has created in the past few years has brought benefits to the vast majority of American workers, including groups that had fallen behind over the past two decades or so, such as low-wage workers and minorities. A labor market like that of today has numerous benefits. It increases the confidence of job losers that they will be able to return to work; it lures discouraged workers back into the labor force; it enhances the prospects of those already at work to get ahead; it enables those who want or need to switch jobs to do so without a long period of joblessness; and it lowers

the duration of the typical unemployment spell. It can reduce long-term structural unemployment by providing jobs and experience to younger and less skilled workers, thus increasing their longer run attachment to the labor force. In short, a sustained tight labor market helps the rising tide of economic growth lift all boats.

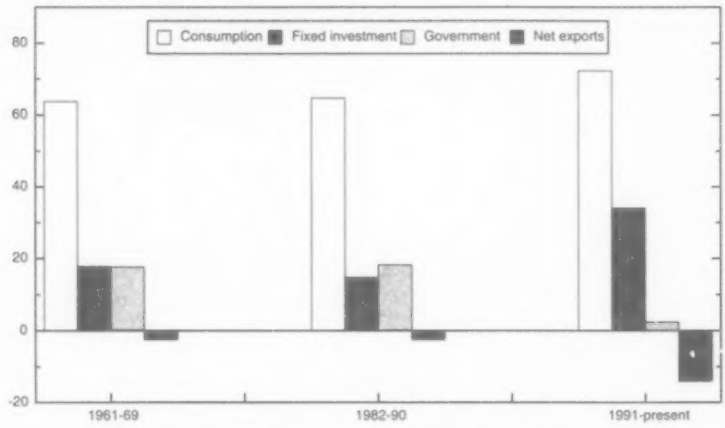
This expansion has illustrated how the mix of monetary and fiscal policy can affect the composition of output. Unlike the expansion of the 1980s, which saw an expansionary fiscal policy restrained by tight monetary policy, the current expansion has taken place under conditions of fiscal restraint and an accommodative monetary policy. The 1980s policy mix brought with it relatively high real interest rates, declining net national saving and investment, and a large current account deficit, which changed the United States from the world's largest creditor Nation to its largest debtor. Strong performance by the U.S. economy in the 1990s is again associated with a strong dollar and, most recently, a widening trade deficit, as the United States has continued to absorb foreign goods while weakness abroad has reduced demand for U.S. goods. On balance, however, the current account deficits of the 1990s have been the result of generally rising net national investment remaining greater than generally rising net national saving.

The current account balance depends on the *gap* between saving and investment. But future growth depends on the *levels* of saving and investment. Since 1993, net national saving has increased by about 3 percentage points as a share of GDP, to better than 6½ percent in the first three quarters of 1998. The current expansion has been distinguished by the large contribution of private fixed investment to GDP growth and the negligible contribution of government spending (Chart 1-2). Strong investment has already been associated with strong growth in capacity, which has helped keep inflation in check, and may have contributed to maintaining growth in productivity as the expansion has matured. Chapter 2 discusses this investment boom in greater detail.

CONCLUSION

Through a combination of sound policy, other favorable conditions, and of course the energetic efforts of millions of American workers and businesses, the current economic expansion has achieved both high employment and low inflation. Longer run trends in productivity and population growth will ultimately determine how fast the economy grows. But the investment that has driven the current expansion should pay off in stronger growth and productivity and higher future standards of living than otherwise would have been the case. With the Federal budget once more under control, large deficits will not constrain future policy choices.

Chart 1-2 **Contributions to Economic Growth in Three Long Expansions**
More than a third of the increase in real GDP in the current expansion came from fixed investment.



Sources: Department of Commerce (Bureau of Economic Analysis), National Bureau of Economic Research, and Council of Economic Advisers.

PRESERVING FISCAL DISCIPLINE

Reducing the Federal budget deficit has been a centerpiece of this Administration's economic policy. Between 1993 and 1997 the deficit came down steadily. Last year, for the first time since 1969, the budget was in the black, with the largest surplus as a share of GDP in over 40 years.

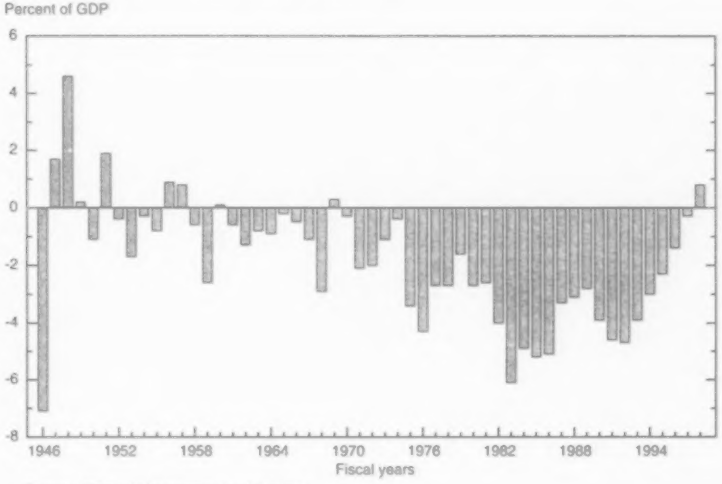
The Administration now projects substantial surpluses in the unified Federal budget well into the future. (The unified budget includes both on-budget and off-budget Federal Government programs.) With no further action, however, the aging of the U.S. population and continued growth in health care spending per person would eventually push the budget back into deficit. The favorable near-term outlook has provided an important opportunity to address these longer term problems. In his 1999 State of the Union address, the President presented his plan to use much of the projected budget surpluses to help save Social Security and strengthen Medicare, while preserving the fiscal discipline that has been so hard won over the past 6 years.

REACHING SURPLUS

Except during wars and economic downturns, the Federal budget has stayed roughly balanced for most of the Nation's history. Yet the large budget deficits that emerged in the early 1980s persisted

throughout that decade of peace and economic expansion, and then worsened in the 1990-91 recession (Chart 1-3). In 1992 outlays exceeded receipts by $290 billion, or 4.7 percent of GDP. When the President took office in January 1993, the deficit was projected to reach almost $400 billion in 1998 and over $600 billion in 2003, assuming no change in policy. By 1998, however, receipts exceeded outlays by $69 billion, or 0.8 percent of GDP. (All references to years in this section are fiscal years running from October through September, unless otherwise noted.)

Chart 1-3 **The Federal Budget Balance, 1946-98**
After a period of persistent large deficits in the 1980s, the Federal budget surplus in 1998 was the largest as a share of GDP since 1957.



Source: Office of Management and Budget.

Between 1992 and 1998 the Federal budget balance improved by about 5½ percent of GDP. In an accounting sense, this dramatic change is attributable in roughly equal parts to an increase in receipts and a decline in outlays, both as shares of GDP. More fundamentally, three forces have been at work: policy changes, faster-than-anticipated economic growth, and higher-than-expected tax revenues, even after adjusting for faster economic growth.

In 1993 the President and the Congress enacted a deficit reduction package designed to cut over $500 billion from the deficits expected to accumulate over the following 5 years. The program slowed the growth of entitlements and extended the caps on discretionary spending put in place in 1990. It raised the tax rates of only the 1.2 percent of taxpayers with the highest incomes, while cutting taxes for 15 million working families. Four years later the President and the Congress finished

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the job of reaching budget surplus by passing the Balanced Budget Act of 1997, which incorporated additional deficit reduction measures.

Strong economic growth also played an important role in reducing the deficit. Faster-than-expected growth created more income and more tax revenue. In addition, it reduced unemployment insurance benefits and outlays for other means-tested entitlement programs—although the effect of better economic performance is considerably smaller on the spending side than on the revenue side.

Finally, technical factors boosted receipts and depressed outlays over and above what policy changes and macroeconomic conditions can account for. In 1997 and again in 1998, higher-than-anticipated individual income tax collections were by far the largest source of technical differences on the revenue side. These appear to have arisen from higher capital gains realizations and changes in the distribution of income among taxpayers (a shift toward more taxable income in the higher brackets), most likely reflecting strong stock market performance. An important technical factor on the spending side has been lower-than-expected outlays for Federal health programs (primarily Medicare and Medicaid), most likely reflecting slower growth in health care costs economy-wide.

FISCAL POLICY IN AN ERA OF SURPLUSES

Achieving a surplus in the Federal budget has provided the foundation for tackling longer term problems. Indeed, balancing the budget has been the critical first step in improving the Nation's future fiscal and economic strength. The most important of the longer term problems is posed by the aging of the population, with its implications for future imbalances in Social Security and Medicare.

Before turning to this issue, however, it is worth emphasizing that achieving long-run fiscal discipline does not, and should not, preclude the possibility of running a short-run deficit if needed for stabilization purposes. The automatic stabilizers in the budget will continue to be the most important instrument of fiscal policy for muting short-term fluctuations in economic activity. But as Japan's current problems remind us, an economy can become mired in stagnation to such an extent that discretionary fiscal stimulus may be appropriate. The elimination of large structural budget deficits frees fiscal policy to undertake such a role if needed.

The Demographic Challenge and Social Security

Social Security is an extremely successful social program. For 60 years it has provided Americans with income security in retirement and protection against loss of family income due to disability or death. Social Security retirement benefits are indexed for inflation and provide a lifetime annuity—a package that has been difficult if not impossible to obtain in the financial marketplace. In any case, fewer than half of

all individuals aged 65 and older received any private pension benefits in 1994. Social Security benefits are the largest source of income for two-thirds of those in this age group and the only source for 18 percent of them. Social Security has achieved dramatic success in helping reduce the poverty rate among the elderly from 35 percent in 1959 to 10.5 percent in 1997. But Social Security is more than just a pension plan: it is a family protection plan, and nearly every third beneficiary is not a retiree. For example, one of every six 20-year-olds will die before reaching retirement age. For the average wage earner who dies leaving a spouse and two children, Social Security provides survivors' benefits roughly equivalent in value to a $300,000 life insurance policy. In addition, three of every ten 20-year-olds will become disabled for some period during their working lives, and for them Social Security provides disability protection.

The most commonly used yardstick to measure the financial soundness of the Social Security system is the 75-year actuarial balance—the difference between expected income and costs over the next 75 years. The Social Security actuaries now project that the current balance in the trust fund, together with projected revenues over the next 75 years, will be insufficient to fund the benefits promised under current law. By 2013 payroll contributions, together with the part of income tax receipts on Social Security benefits that is deposited in the trust fund, are expected to fall short of benefits. By 2021 the shortfall is expected to exceed the trust fund's interest earnings, so that the fund will begin to decline. And by 2032 the trust fund is expected to be depleted, although contributions would still be sufficient to pay about 75 percent of current-law benefits thereafter. Of course, future taxes and benefits will depend on a variety of economic and demographic factors that cannot be predicted perfectly, so the actual problem may be smaller—or larger—than we now believe. Nevertheless, the actuaries' intermediate projections imply that the imbalance in the old age, survivors, and disability insurance program (OASDI, the main component of Social Security) over the next 75 years amounts to around 2¼ percent of taxable payroll (which equals about 1 percent of GDP today).

The key factors contributing to the projected OASDI imbalance are improvements in life expectancy and a reduction in birth rates, which have put the United States on a path of rapid decline in the number of employed workers for every retiree. When the Social Security Act was passed in 1935, the life expectancy of a 65-year-old American was about 13 years. Today, life expectancy for a 65-year-old is 18 years and rising. Meanwhile people are retiring earlier. In 1950 the average age for first receiving Social Security retirement benefits was 68; today it is 63. As a consequence of these changes, the ratio of employed workers to retirees has fallen from about five to one in 1960 to three and a half to one today. In only 30 years' time it will be just two to one and still falling.

In addition to its effects on Social Security retirement and disability benefits, this demographic transition will have important effects on the Medicare and Medicaid programs as well as on the broader economic environment. Medicare is a Federal program that pays for health care for the elderly and certain disabled persons; Medicaid is a joint Federal-State program that provides medical assistance, including nursing home care, to those with low incomes among the elderly, the disabled, pregnant women, children, and members of families with dependent children. Both programs face steeply rising costs over time as the population ages and as the cost of providing medical care likely rises further. Federal spending on Medicaid is financed out of general revenues. Spending on Medicare is financed in two parts: hospital insurance (part A) is funded through the hospital insurance payroll tax, whose proceeds go to a dedicated trust fund, and supplementary medical insurance (part B) is funded through general revenues and monthly premiums paid by beneficiaries. The intermediate projections of the Medicare actuaries imply that the hospital insurance trust fund will be exhausted in 2008.

For the Nation as a whole, the core of the problem is how to provide a high standard of living for both workers and retirees in the next century, even though a smaller share of the population will be in the work force than today. A natural solution is to make workers more productive, by increasing investment in both physical and human capital. Investing in productive capital expands the total economic pie, and that is the prerequisite to meeting the retirement costs of the baby-boom generation without unduly burdening future workers. The key to accomplishing this is to increase national saving. The Federal Government can play its part by maintaining fiscal discipline. Indeed, the President's proposal to use much of the currently projected budget surpluses for Social Security and Medicare reform would add about 2 percent of GDP to the contribution of government saving to national saving over the next 15 years.

The Administration's Policy

In his 1998 State of the Union address, the President proposed to reserve the budget surplus until agreement had been reached on a plan to secure the financial viability of Social Security. To accomplish this task, the President suggested a process of public education and discussion, followed by the forging of a bipartisan agreement. The President later set forth five principles to guide the reform process:

- *Strengthen and protect Social Security for the 21st century.* This is an overriding goal, and it rules out proposals that fail to provide a comprehensive solution to the solvency problem. For example, a plan to divert existing payroll taxes into a new system of individual accounts, without other, offsetting changes, would fail the test to the

extent that it would reduce Social Security's revenues and make the existing imbalance even larger.

- *Maintain universality and fairness.* The current program provides benefits on a progressive basis, and ensuring progressivity is an important standard by which reform proposals should be judged.
- *Provide a benefit that people can count on.* Any proposed reform of Social Security must continue to offer people a secure base for retirement planning.
- *Preserve financial security for low-income and disabled beneficiaries.* The commitment to the disability and survivors' insurance aspects of the OASDI program must be maintained.
- *Maintain fiscal discipline.* Fiscal discipline is essential to ensure that the emerging budget surpluses are not drained before Social Security reform has been addressed, and that fiscal policy plays a helpful role in preparing for the retirement of the baby-boomers.

In his 1999 State of the Union address, the President put forward a comprehensive framework for Social Security reform that satisfies these principles. First, about three-fifths of the projected budget surpluses over the next 15 years would be transferred to the Social Security trust fund. Second, about a fifth of the transferred surpluses would be invested in equities to achieve higher returns, just as private and State and local government pension funds do. The Administration intends to work with the Congress to ensure that these investments are made by the most efficient private sector investment managers, independently and without political interference. These two steps alone would extend the solvency of the Social Security system until 2055. Third, the President called for a bipartisan effort to make further reforms to Social Security that would extend its solvency to at least 2075.

The President repeated his commitment to "save Social Security first." He also stated that—if Social Security reform is secured—the remaining projected surpluses over the next 15 years should be dedicated to three purposes. First, about 15 percent of the projected surpluses would be transferred to the Medicare trust fund. The Administration, the Congress, and the Medicare commission should work to use these funds as part of broader reforms. Even without such reforms, however, the transfers would extend the projected solvency of the Medicare trust fund to 2020. Second, about 12 percent of the projected surpluses would be used to create Universal Savings Accounts, which would help people save more for their retirement needs. The government would provide a flat tax credit for Americans to put into their accounts and additional tax credits to match a portion of each dollar that a person voluntarily puts into his or her account. These accounts would not be part of the Social Security system but would provide additional retirement resources. The remainder of the projected surpluses over the next 15 years would be

reserved to improve military readiness and to meet pressing domestic priorities in such areas as education and research.

Within this framework, the national debt of the United States would decline dramatically. Debt held by the public would fall from about 45 percent of GDP today to less than 10 percent in 2014. That would be the smallest burden of government debt on the economy since the United States entered World War I in 1917.

MEETING THE INTERNATIONAL CHALLENGE

This Administration has been committed from the start to outward-looking trade and investment policies. And in his 1999 State of the Union address the President called for a new consensus in the Congress to grant him traditional trade-negotiating authority that permits trade agreements negotiated with other nations to be submitted to an up-or-down Congressional vote without amendment. At the same time he proposed the launch of an ambitious new round of global trade negotiations within the World Trade Organization. The general principle behind the Administration's international economic policy is that open domestic markets and an open global trading system are a better way to raise wages and living standards over the longer term than are trade protection and isolationism. Recent strains on the fabric of the international economy have increased the allure of protectionism in some quarters. But the main lesson should be that it is essential to promote growth in the world economy, to help crisis-stricken economies recover, and to reform the international financial system in ways that make future crises less likely without abandoning the benefits that come with increased international trade and investment flows.

During the year and a half that has elapsed since the collapse of the Thai currency in July 1997, Asia's currency crisis has developed into a more widespread crisis affecting many countries around the globe. As the crisis has spread, it has impacted global commodity markets, impaired economic development, and imposed extraordinary hardship in the crisis-afflicted countries, all the while posing risks to growth worldwide, including in the United States and other industrial countries. According to projections by the International Monetary Fund (IMF), global growth is now expected to reach a modest 2.2 percent in 1999, which represents a decline both from the 4.2 percent rate attained in 1997 and from its long-run historical average of 4 percent.

CONTAINING THE CRISIS AND PROMOTING RECOVERY

Since the crisis began, the United States has led the international community's efforts to promote world economic growth, to stabilize international financial conditions, and to implement reforms to reduce

the vulnerability of the international system to future crises. These initiatives are described in detail in Chapters 6 and 7.

A first prerequisite for restoring strong world economic performance is strong growth in the industrial countries that are the main customers of the crisis-afflicted economies. This need has been clearly recognized and addressed in both words and deeds by the United States and its partners among the Group of Seven (G-7) large industrial nations. In October the G-7 finance ministers and central bank governors issued a joint statement indicating that, in their view, the balance of risks in the world economy had shifted. With inflation low and well controlled, countries should commit themselves to preserving or creating the conditions for sustainable domestic growth. Monetary conditions were subsequently eased in the key industrial countries. In the United States, the Federal Reserve reduced the Federal funds rate three times, helping restore confidence and liquidity. Japan, Canada, and most of the major European countries also lowered interest rates. Japan, a country in deep recession whose recovery is particularly critical to the growth prospects of its crisis-afflicted Asian trade partners, has also taken steps to provide fiscal stimulus and has committed substantial resources to strengthen its financial system. Much remains to be done, however, and many private forecasts are for continuing contraction in Japan. Although it is premature to conclude that the rest of the world economy is out of peril, conditions have improved noticeably since October, when it appeared that the world might be headed into a generalized global credit crunch.

It is important to emphasize that, in serving as an engine of global growth during this period, the United States will inevitably see an increase in its already sizable trade deficit, and some sectors, particularly those heavily exposed to trade, will experience disproportionate impacts. The result may be a rise in calls for protection, and it will therefore be important to find constructive approaches to the disruptions caused by trade. The United States remains committed to outward-looking, internationalist policies and has urged the crisis-impacted countries to keep their own markets open.

Beyond working to ensure growth in the industrial world, the Administration has focused since the onset of the crisis on the need to contain the international contagion of financial disruption and to restore the confidence of market participants. The Administration has supported the IMF in its goal of providing financial assistance to countries in crisis that are willing to implement the reforms needed to restore economic confidence and strengthen the underpinnings of their economies, including their corporate and financial sectors. The emphasis of IMF programs on financial sector reform reflects the growing consensus, discussed in Chapter 6, that structural weaknesses, particularly in the process of financial intermediation, were a key element in initiating the crisis. It appears that many countries in East Asia have

now made considerable progress toward establishing the foundation for recovery. In addition, an IMF stabilization package for Brazil, supplemented by bilateral financing, was arranged in November.

As the crisis spread, the Administration recognized that its contagion threatened even countries that had taken great strides in implementing sound macroeconomic and structural policies and had worked to strengthen the fundamentals of their economies. The President therefore proposed, and the G-7 leaders agreed to establish, an enhanced IMF facility to provide contingent, short-term lines of credit that could be drawn upon by countries pursuing strong, IMF-approved policies, accompanied, as appropriate, by additional bilateral finance. As the scope of the crisis widened, the resources of the IMF became increasingly strained. A key step in expanding them was for the United States to meet its own financial obligations to the organization. The Administration proposed, and in October the Congress approved, $18 billion in funding, opening the way for about $90 billion of usable resources to be provided by all IMF members to the liquidity-strapped institution.

To address the suffering inflicted by the crisis on the citizens of the affected countries, the Administration has proposed policies to stimulate economic recovery and alleviate hardship. Another decade of lost growth like that endured during the debt crisis of the 1980s would be intolerable, and the Administration recognizes that the industrial countries must do more than just serve as good customers for the products of crisis-impacted countries. One problem that is delaying recovery in several of the Asian crisis countries is that large numbers of companies and banks, including many that were in good health before the crisis, now face unmanageable debt burdens. Companies and financial institutions in Indonesia, the Republic of Korea, and Thailand, for example, face substantial overhangs of bad debt as a result of high interest rates and currency depreciations. To address this systemic problem, the President proposed the exploration of comprehensive plans to help countries restructure debt and restore the flow of credit needed for firms to operate. The Asian Growth and Recovery Initiative, jointly announced by the United States and Japan in November 1998, is designed to promote this goal. In addition, many crisis-afflicted countries lack effective social safety nets. Therefore the Administration also sought, and agreement was reached, to establish a new World Bank emergency facility to support social safety net spending focused on the most vulnerable citizens of these countries.

STRENGTHENING THE INTERNATIONAL FINANCIAL ARCHITECTURE

The most important issue raised by the recent international crisis is how to make sure the world never again faces another one like it. Unfortunately, there is no silver bullet—no simple solution that would simultaneously guarantee countries access to global capital flows and eliminate the risk of a crisis of confidence once again withdrawing that

access. Even so, international agreement is finally emerging on some steps that can and should be taken to strengthen the architecture of the financial system, to make it less crisis prone. Chapter 7 is devoted to a discussion of potential reforms, including those proposed in recent reports by working groups of central bank governors and finance ministers from a group of industrial and key emerging market countries, informally dubbed the G-22.

The G-22 reports focus on measures to increase transparency and accountability in the financial operations of individual countries, of private financial and corporate institutions, and of international financial institutions such as the IMF and the World Bank. Greater transparency and accountability will enhance the availability, relevance, and reliability of information that investors need to evaluate the risks in lending. The reports also propose a series of reforms to strengthen domestic financial institutions: improvements in prudential supervision and regulation are particularly needed to create stronger incentives for borrowers and lenders to weigh risks and act with appropriate discipline, thereby reducing the odds of a crisis. Finally, the reports identify policies that could improve the coordination of creditors' interests during a future crisis and promote its orderly, cooperative, and equitable resolution.

Again, no magic formula can prevent the recurrence of currency and financial crises. But things can be done to limit their frequency, their impact, and their pernicious tendency to spread from country to country. Therefore, even as the United States works to contain the current crisis and help restore growth in the affected parts of the world, it will also work with the G-7 and through other international forums to implement reforms of the international financial architecture that will help achieve this longer term goal. Such reform is crucial for restoring support in an international economic system based on trade and investment flows that can contribute to rising global living standards in the 21st century. Additional necessary steps are described in Chapter 7.

EMBRACING CHANGE WHILE PROMOTING FAIRNESS

The tradeoff between efficiency and fairness is a classic problem in formulating economic policy. Policies that confer benefits broadly sometimes confer them unevenly, imposing relatively high costs on a relative few. In well-functioning markets, the broadly distributed gains usually outweigh the concentrated losses—often many times over. But those who are hurt naturally seek relief through the political process, and if government responds by substituting political remedies for market outcomes, it can dissipate the aggregate gains.

Increases in the Nation's standard of living over the longer term require that we embrace change and do not retreat from the constant

succession of new opportunities and challenges of an ever-changing world. However, considerations of fairness require that we ensure that no part of our society bears disproportionate losses for the sake of achieving net gains for the rest. More pragmatically, achieving political consensus to embrace worthwhile change sometimes requires looking out for the interests of those who are visibly harmed, even if that means sacrificing some portion of the potential gains. Three very different areas of current policy concern—agriculture, corporate mergers, and international trade—illustrate these difficult choices.

AGRICULTURE

For more than a decade, a new, bipartisan farm policy has directed farmers to seek income increasingly from markets rather than from Federal subsidies. The 1994 Crop Insurance Reform Act and the Federal Agriculture Improvement and Reform (FAIR) Act of 1996 sought to replace the farm income safety net, based on government-managed price and income supports, with a system in which farmers manage their own risk through crop diversification, transactions in futures markets, and government-subsidized crop and revenue insurance. However, when the President signed the FAIR act, he expressed his concern that it failed to provide an adequate safety net for family farmers, and he reiterated his commitment to work with the Congress to strengthen that safety net.

Farmers prospered in the first few years under the FAIR act. Net farm income rose to a record $53.4 billion in 1996 and remained high in 1997, as export demand grew and world commodity prices rose from 1995 levels. In addition, farmers benefited from the transitional payments provided by the 1996 act, which boosted farm income by about $6 billion in both 1996 and 1997. In 1998, however, farm income fell, as commodity prices dropped sharply and farmers confronted a number of weather-related problems. In response, the Administration insisted on a $6 billion emergency assistance package to boost farm income. Net farm income in 1998 is estimated to have been about $48 billion, only slightly less than the 1997 figure of $50 billion. The President has also pledged to work with the Congress this year to reform the crop insurance program and farm income assistance.

The experience of 1998 reflected the tension inherent in a farm policy that is market oriented yet tries to provide an adequate safety net for family farmers. Current farm policy encourages farmers to make their planting decisions on an economic basis rather than with an eye to government support, while helping them manage risk by subsidizing insurance against both poor harvests and low prices. But to the extent that farmers have a reasonable expectation that the government will step in to provide assistance in the event of an emergency, they are unlikely to take all the appropriate risk management steps themselves. This gives rise to a moral hazard problem that cannot be

eliminated entirely, because the government will always be under strong pressure to address what are perceived to be legitimate disasters.

MERGERS

The United States is in the midst of its fifth corporate merger wave of the century. The value of all mergers and acquisitions announced in 1997 was almost $1 trillion, and activity in 1998 was over $1.6 trillion. By almost any quantitative standard the current boom is substantial. Measured relative to the size of the economy, only the spate of trust formations at the turn of the century comes close to the level of current merger activity. Measured relative to the market value of all U.S. companies, however, the 1980s boom was roughly comparable in size.

Qualitatively, the current merger wave is similar to those before the 1980s in that it is taking place in a strong stock market, with stock rather than cash the preferred funding source. But unlike the pre-1980s transactions, many recent mergers are neither purely horizontal (between firms in the same or similar industries) as in the 1890s and 1920s, nor purely conglomerate (between firms of different industries) as in the 1960s and 1970s. Rather, they represent market extension mergers, in which the merging companies are in the same industry but serve different and noncompeting markets, or synergy-seeking mergers, in which companies in related markets combine to take advantage of economies of scope. In contrast to the 1980s, when many mergers were primarily motivated by financial considerations, today's mergers are primarily motivated by business strategy and the need to respond to fundamental shifts in a rapidly changing economy.

The main reason managers give for undertaking mergers is to increase efficiency. Mergers can encourage greater efficiency by reducing excess capacity, taking advantage of economies of scale and scope, and stimulating technological progress. Over time, such efficiencies translate into lower prices and better products and services for consumers. However, mergers that increase market concentration can raise prices and reduce consumer benefits. In addition, mergers, like other forms of economic change, can disrupt established patterns of economic and social activity.

When the antitrust agencies—the Federal Trade Commission and the Antitrust Division of the Department of Justice—review mergers, they do so with an eye to protecting competition for the benefit of consumers. They pay considerable attention to market definition—over how large a market the merged firm might exert market power, and what competitors it faces in that market—so that the effects of a merger are evaluated in the proper context. Antitrust enforcement has been rigorous in this Administration, and mergers receive careful scrutiny. Most have been found to be procompetitive or competitively neutral. But the minority that would reduce competition and harm consumers have been challenged. The current approach, which is aggressive

without being heavy handed, stands in contrast to both the strong antimerger bias of the 1960s and 1970s and the much more lax enforcement of the 1980s.

Antitrust enforcement does not and probably should not encompass the broader range of possible economic and social effects that may be associated with mergers, such as job loss, change in ownership structure (including reduced diversity of ownership), and localized service disruptions. Such effects result not only from mergers but from many other forces as well, including technological change, deregulation, and international competition. Indeed, mergers may be more a symptom of broad change in the economy than a cause. The policies that are best for dealing with these changes include promoting full employment and macroeconomic stability, developing a skilled and well-trained work force, providing adequate unemployment insurance and other safety net programs, and helping communities adapt to economic change. All of these have been part of the Administration's economic strategy of the last 6 years.

INTERNATIONAL TRADE

International trade policy has long been a laboratory for addressing the challenge of balancing efficiency and fairness and for providing political safeguards for those who might be hurt by change and would otherwise work to block it. For example, U.S. trade law recognizes that imports can sometimes be associated with labor displacement and other disruptions, and it provides for several kinds of relief in these circumstances. So-called escape clause relief allows temporary measures to be adopted in cases where rising imports are judged to have been a substantial cause of serious injury to an industry. And antidumping duties may be imposed in cases where foreign producers are judged to have dumped their products in U.S. markets (that is, sold them at less than fair value).

Trade adjustment assistance is an alternative way of dealing with disruptions associated with trade. Since 1962 U.S. trade laws have provided for some kind of cash assistance for workers who have lost their jobs as a result of trade. In addition, the North American Free Trade Agreement (NAFTA) provides assistance to workers displaced from companies that have shut down their U.S. plants and moved production to Mexico or Canada, and the Administration has supported extending such assistance to all workers displaced by the movement of work to another country. In theory, trade adjustment assistance provides compensation from the broad class of those who gain from trade (represented by the taxpayers generally) to those who lose from it (workers in trade-impacted industries), without interfering with the efficiency-enhancing effects of freer trade. In practice, of course, things are more complicated if adjustment assistance interferes unduly with workers' incentives to find new jobs—another moral hazard issue.

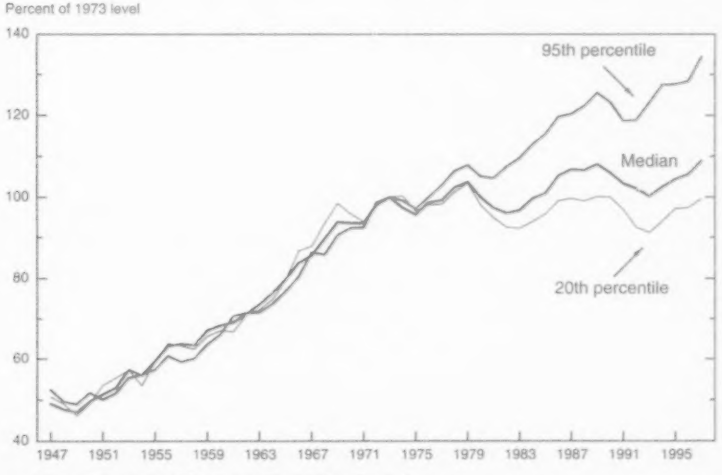
Nevertheless, adjustment assistance illustrates the general principle that it is desirable to address the disruption caused by positive change rather than block the change itself.

PROMOTING PROSPERITY FOR ALL AMERICANS

From the end of World War II until the early 1970s, the rising tide of economic growth raised wages and incomes uniformly for American families of all incomes. For example, just as the median family income approximately doubled between 1947 and 1973, so did the incomes of families near the top and the bottom of the income spectrum (Chart 1-4). Since the early 1970s, however, the pace of income growth has slowed and income inequality has increased. Median family income in 1997 was about 10 percent higher than in 1973, but income at the 95th percentile (that is, an income exceeded by that of only 5 percent of American families) was more than a third higher, whereas income at the 20th percentile was virtually unchanged.

This Administration has recognized from the start that the stubborn problems of slow productivity growth and rising income inequality were among the greatest challenges it would face. And there are heartening signs that we may have turned the corner. As mentioned earlier, productivity growth has remained relatively strong in this expansion, whereas in past expansions it has tended to flag as the expansion matures. Moreover, as detailed in Chapter 3, low-wage and minority

Chart 1-4 **Growth in Real Family Income, 1947-97**
Growth in real family income has slowed and inequality has increased since 1973.



Source: Department of Commerce (Bureau of the Census).

workers are enjoying some of the best labor market conditions they have seen in decades. The Bureau of the Census reports that the Gini coefficient (a standard measure of income inequality) has recorded no statistically significant increase since 1993, and the poverty rate fell to 13.3 percent by 1997, from 15.1 percent in 1993. These trends are encouraging. However, it is difficult to disentangle the cyclical effects arising from the particular strengths of this expansion from possible improvements in underlying trends.

Maintaining macroeconomic stability is a necessary condition for ensuring that all Americans participate in the country's growing prosperity. But it is also important to continue to develop policies that address the challenges of a changing economy and a changing society, especially in the areas of education and training. Chapter 3 discusses the Administration's initiatives to improve schools, open the doors of college to all Americans, strengthen America's work force development system, and promote lifelong learning.

CONCLUSION

The U.S. economy remained strong in 1998 despite a serious weakening in the international economy and considerable financial turmoil. The economy's ability to weather these storms is testimony to the soundness of the policies of the past 6 years and to the underlying strength of the current economic expansion. Although there is much for us all to be proud of in this economic success, the Nation still faces important challenges as it prepares for the 21st century. Chapter 2 of this Report reviews domestic macroeconomic developments in 1998 and presents the Administration's forecast for 1999 and beyond. Chapter 3 analyzes the benefits of the strong labor market in this expansion. Chapter 4 provides a context for the national discussion of Social Security reform by analyzing work, retirement, and the economic well-being of the elderly. Chapter 5 examines the role of innovation and regulation as determinants of long-term economic performance, with particular emphasis on antitrust policy, environmental regulation, and restructuring of the electric power industry. Finally, Chapters 6 and 7 analyze recent events in the international economy from the standpoint of increased globalization of capital flows and the evolution and reform of the international financial system.

CHAPTER 2

Macroeconomic Policy and Performance

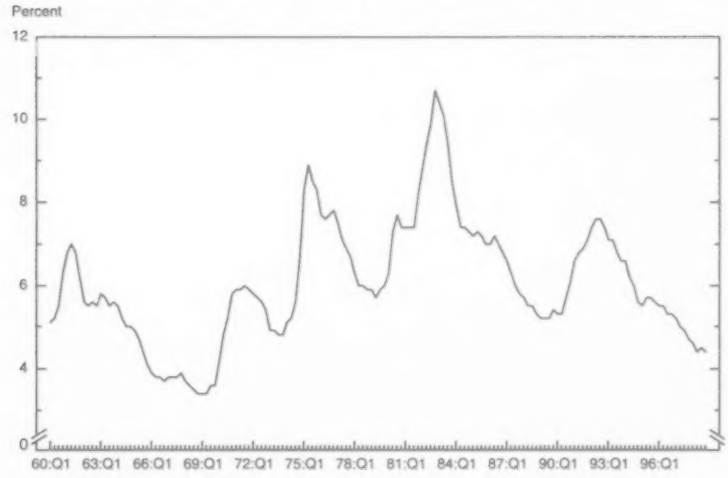
THE U.S. ECONOMY PERFORMED very well in 1998. Real output increased 3.7 percent at an annual rate over the first three quarters of the year, once again exceeding the predictions of most forecasters. Nonagricultural jobs increased by about 2.9 million during the year, and the average unemployment rate for the year dropped to 4.5 percent, its lowest level since 1969 (Chart 2-1). The consumer price index rose by only 1.6 percent, its second smallest increase since 1964 (Chart 2-2), and other measures of inflation were even more muted.

Yet the turmoil in foreign economies that began in the summer of 1997 did not leave the U.S. economy unscathed. Net exports declined sharply during 1998, as a result of slow or negative economic growth in a number of the United States' trading partners and a substantial rise in the foreign exchange value of the dollar since early 1997. Moreover, during the late summer and fall, domestic financial conditions, which had been highly conducive to economic growth for several years, became much less favorable. Investors' sudden flight from risky assets reduced some businesses' access to capital and raised the cost of borrowing for others.

Despite these dampening forces, the economic expansion maintained considerable momentum. A significant factor underlying this strong performance was the continued practice of responsible fiscal policy: 1998 will be remembered as the year the Federal Government recorded its first unified budget surplus since 1969. The surplus contributed to the low level of interest rates during the year, increased the capital available for private investment, and provided a more stable backdrop for private economic decisions. Monetary policy also provided an important boost to the economy. The Federal Reserve held overnight interest rates steady for much of the year, but it reduced rates three times in quick succession when the financial environment deteriorated in the fall. Following the Federal Reserve's actions, financial stresses in the United States abated considerably, with risk premiums in interest rates declining once again and the issuance of corporate debt picking up.

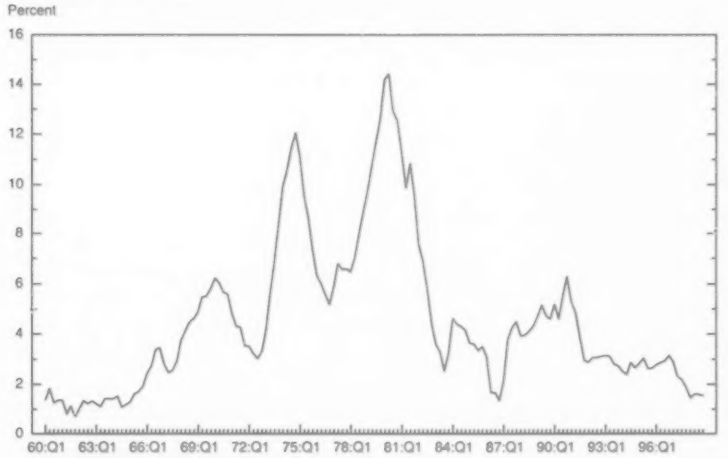
The first section of this chapter reviews the course of the U.S. economy during 1998. The next section focuses on developments in domestic financial markets, which were exceptionally turbulent last year.

Chart 2-1 **Unemployment Rate**
In 1998 the average unemployment rate fell to its lowest level since 1969.



Source: Department of Labor (Bureau of Labor Statistics).

Chart 2-2 **Inflation Rate**
Inflation remained low in 1998, with the consumer price index recording its second smallest rise since 1964.



Note: Data are four-quarter percent changes in the CPI.
Source: Department of Labor (Bureau of Labor Statistics).

Then the chapter explores two other macroeconomic topics that have received a lot of attention recently: the boom in business equipment investment during the past several years, and the "year 2000" problem involving computers. The final section of the chapter analyzes the outlook for the U.S. economy. When the economic expansion continued through December, it became the longest recorded peacetime expansion. The Administration expects the expansion to continue during 1999, albeit at a more moderate pace.

THE YEAR IN REVIEW

Real gross domestic product (GDP) increased 3.7 percent at an annual rate between the fourth quarter of 1997 and the third quarter of 1998 (the latest period for which data were available when this Report went to press). Preliminary data suggest that GDP growth likely remained in this neighborhood in the fourth quarter, bringing growth for the year as a whole close to that recorded in 1996 and 1997. Once again, business investment in equipment made a substantial contribution to GDP growth, while a larger drag from net exports was offset by a stepup in household spending on goods, services, and housing from its already robust pace of the previous several years.

THE STANCE OF MACROECONOMIC POLICY

Both fiscal policy and monetary policy made vital contributions to the excellent performance of the U.S. economy during 1998.

Fiscal Policy

The passage of the Omnibus Budget Reconciliation Act of 1993 marked the beginning of a significant shift toward fiscal restraint by the Federal Government. The Balanced Budget Act of 1997 put in place the additional policies needed to bring the budget into sustained balance. In fiscal 1998 (October 1997 through September 1998), the Federal Government capped 6 years of dramatic budget improvement by recording the first budget surplus since 1969. The $69 billion surplus was the largest as a share of GDP since 1957. The goal of eliminating the budget deficit by 2002 was accomplished 4 years ahead of schedule. Net interest payments—the fiscal burden imposed by the large deficits of the past—remain substantial, however, at 15 percent of total expenditures and 3 percent of GDP in fiscal 1998. Excluding these payments, the "primary" budget balance, the difference between tax revenue and expenditures for current needs, reached a surplus of more than $300 billion.

Although the attainment of a budget surplus marks a major fiscal milestone, the case for continued fiscal responsibility remains strong. Demographic trends point to an aging of the population that will

significantly increase expenditures on Social Security and government health programs over the next several decades. The emergence of a budget surplus offers the opportunity to prepare for this challenge. Indeed, the unified budget surplus includes the current excess of receipts over benefit payments in the Social Security system, which amounted to $99 billion in fiscal 1998. (Apart from the Social Security system, the Federal Government had a deficit of $30 billion in 1998, producing the unified surplus of $69 billion.) The Administration has stated that none of the unified surplus should be used until the future solvency of Social Security is assured. The President has repeatedly reaffirmed this commitment to "save Social Security first," and he presented a specific proposal for Social Security reform in his recent State of the Union address.

Monetary Policy

In conducting monetary policy during 1998, the main focus of the Federal Reserve's concerns shifted from a potential reversal of the favorable trend of inflation to a potential weakening of economic activity. When the year began, the target Federal funds rate—the rate banks charge each other for overnight loans—stood at 5.5 percent, where it had been for the preceding 9 months. However, the surge in economic growth during the first several months of the year heightened the concern of the Federal Open Market Committee (FOMC, the Federal Reserve's principal monetary policy decisionmaking body) that intensifying use of the economy's resources might lead to a buildup of inflationary pressures. The FOMC did not adjust the Federal funds rate in response, but it noted in March that a tightening of monetary policy was more likely than an easing in the months ahead.

Despite a slowing of growth in the second quarter, the FOMC believed that the balance of risks still pointed to the possibility of rising inflation over time. It therefore maintained a bias toward future monetary tightening. Indeed, labor costs accelerated during 1998 in a very tight labor market. However, the rapid deterioration in financial conditions in the late summer and fall persuaded the Federal Reserve that a much less restrictive monetary policy was appropriate. The FOMC dropped its bias toward tightening at its August meeting, cut the Federal funds rate by 25 basis points (0.25 percentage point) at its September meeting, did so again in mid-October in an unusual between-meeting move, and lowered the funds rate yet again at its November meeting. In both October and November the Federal Reserve Board also cut the discount rate—the rate it charges banks to borrow from the Fed—by 25 basis points, to maintain the discount rate's traditional position below the funds rate. The easing of monetary policy was not a reaction to any observed weakness of economic activity but rather a preemptive or forward-looking action intended to sustain the expansion. The cumulative 75-basis-point reduction in the

target Federal funds rate brought that rate to 4.75 percent, its lowest value in 4 years.

TURMOIL IN FINANCIAL MARKETS

The past year was a tumultuous one in U.S. financial markets. The first half of the year witnessed an extension of the highly favorable conditions that had prevailed over the previous several years. Yields on intermediate- and long-term Treasury securities moved in a fairly narrow band that was centered a little below the levels that had prevailed during the latter part of 1997. Most households and firms enjoyed ample access to credit on good terms. Meanwhile equity prices rose sharply, with most major indexes hitting record highs in July that ranged from 17 to 28 percent above their values at the beginning of the year.

Financial conditions during the second half of the year were less favorable. In mid-August Russia devalued the ruble and effectively defaulted on its domestic debt, marking a new round of the financial crisis in emerging markets that had begun in Southeast Asia a year earlier. As the international financial turmoil worsened, investors' desire to shift their portfolios away from emerging market economies—a trend that had been apparent over the previous year—intensified, and they began to shy away from all but the safest and most liquid assets in the markets of the industrial countries. (Chapter 6 discusses developments in international financial markets at length.) Among U.S. assets, the shift of investor preferences away from private securities and toward government securities caused the difference, or spread, between private and Treasury yields to spike upward. Yields on higher quality corporate debt were little changed (although the spread between these yields and Treasury yields widened as the latter fell), but businesses with lower credit ratings faced much higher costs of borrowing. Moreover, issuance of corporate debt slowed sharply, banks tightened terms and standards on business loans (although the volume of lending actually increased significantly), and stock prices dropped steeply.

Financial conditions improved markedly after mid-October, partly in response to the Federal Reserve's interest rate reductions. Risk spreads narrowed, debt issuance accelerated, and stock markets rebounded to new highs. Nevertheless, some American businesses apparently faced more limited access to credit and a higher cost of borrowing at the end of 1998 than at the beginning of the year.

COMPONENTS OF SPENDING

As already noted, real GDP increased at an annual rate of 3.7 percent between the fourth quarter of 1997 and the third quarter of 1998 (Table 2-1), close to the pace of the previous 2 years. Quarterly output

TABLE 2-1.—*Growth of Real GDP and its Components During 1997 and 1998*

Item	Growth rate (percent)		Contribution to GDP growth (percentage points)	
	1997	1998	1997	1998
Gross domestic product	3.8	3.7	3.8	3.7
Final sales	3.4	3.9	3.3	3.9
Consumer expenditures	3.7	5.4	2.5	3.7
Housing	4.2	13.5	.2	.5
Business fixed investment	9.8	11.0	1.0	1.2
Exports of goods and services	9.6	-4.5	1.1	-.5
Imports of goods and services	14.0	9.0	-1.7	-1.1
Government consumption and gross investment	1.4	1.1	.3	.2
Change in inventories			.5	-.2

Note: Data for 1997 are for fourth quarter to fourth quarter; data for 1998 are for fourth quarter to third quarter at annual rates.
Contributions are approximate.
Detail may not add to totals because of rounding.
Source: Department of Commerce (Bureau of Economic Analysis).

during 1998 was quite erratic: after surging at a 5.5 percent annual rate in the first quarter, real output growth slowed to 1.8 percent in the second quarter, and then picked up to 3.7 percent in the third quarter. This irregular pattern was strongly influenced by sharp swings in inventory investment (discussed below). Final sales, which increased by about 3½ percent during 1997, rose at a fairly steady 4½ percent annual rate during the first half of 1998, grew at a much slower pace in the third quarter, and apparently accelerated a little at the end of the year. Among the components of final sales, net exports exerted a substantial drag during the first half of the year but less during the third quarter, as their rate of decline eased. Meanwhile private domestic final sales—consumption, housing, and business fixed investment—increased less rapidly in the third quarter than during the first half of the year.

Household Spending

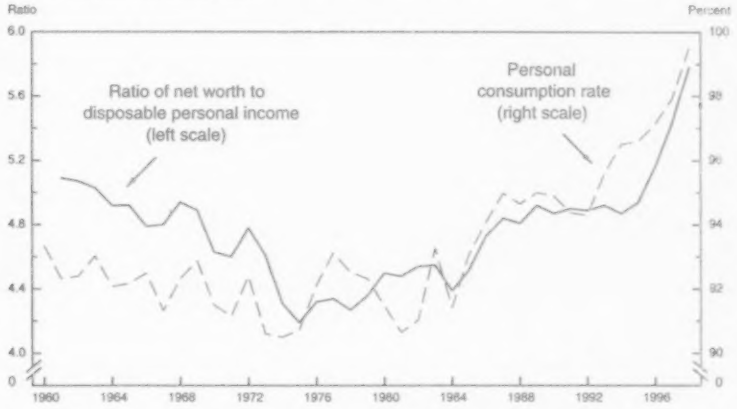
Real personal consumption expenditures (PCE) surged during the first half of 1998, increasing at roughly a 6 percent annual rate. PCE growth downshifted during the third quarter to about a 4 percent pace (which still exceeded its growth rate for the four quarters of 1997) and remained strong in the fourth quarter, according to the partial data available.

Demand for homes was also very strong. Although real residential investment represents less than 5 percent of GDP, its growth during the first three quarters of 1998 accounted for over 10 percent of GDP growth. Single-family housing starts were the highest since 1978, and new and existing single-family home sales reached record levels. The percentage of Americans who own their own home reached an all-time

high of 66.8 percent in the third quarter (the latest period for which data are available). Growth in homeownership was especially fast for groups that have been underrepresented in the past, such as blacks and Hispanics.

This robust growth in household spending during 1998 occurred against a backdrop of extremely favorable fundamentals. First, real disposable income maintained its solid upward trend, rising about 3¼ percent at an annual rate over the first three quarters (based on the PCE chain-weighted price index). Second, household wealth soared to an extraordinary level—almost six times income—as a result of the dramatic runup in stock prices (Chart 2-3). This expansion in household

Chart 2-3 **Net Worth and the Personal Consumption Rate**
Surging household wealth in 1998 helped increase consumer expenditures and reduce the personal saving rate.



Note: Personal consumption rate is the ratio of personal outlays to disposable personal income. It equals one minus the personal saving rate. Household net worth for each year is constructed as the average of net worth at the beginning and the end of the year. Data for 1998 are approximate.
Sources: Department of Commerce (Bureau of Economic Analysis), Board of Governors of the Federal Reserve System, and Council of Economic Advisers.

resources permitted spending to grow significantly faster than disposable income. Indeed, the personal saving rate—measured by the difference between disposable income and consumer outlays, as a percentage of disposable income—fell sharply again during 1998. After averaging roughly 4.5 percent between 1992 and 1994, this rate dropped to about 3 percent in 1996, about 2 percent in 1997, and about ½ percent in the first three quarters of last year. (Last summer's revision of the measured saving rate is discussed later in this chapter.)

Household spending was also spurred by low interest rates and a ready availability of credit. In particular, housing affordability soared, as interest rates on 30-year fixed rate mortgages averaged more than ½ percentage point below their 1997 values. Indeed, mortgage credit

expanded more rapidly during the first three quarters of 1998 (the latest available data) than in any year since 1990. Over the same period, consumer credit grew at a somewhat faster rate than in 1997 but well below the torrid pace of 1994 and 1995. Total household debt appears to have increased faster than disposable income in 1998 for the sixth year in a row. Nevertheless, delinquency rates on consumer loans remained close to their 1997 values, and delinquency rates on mortgages stayed quite low. Personal bankruptcy filings reached a new record high in the third quarter of 1998, but the rate of increase over the preceding year was well below the pace recorded between 1995 and mid-1997.

Last year's *Economic Report of the President* included an extended discussion of the long-term upward trend in the bankruptcy rate. During 1998 the Congress considered various proposals to reform the bankruptcy law, and both the House and the Senate passed reform bills; however, the two houses were unable to agree on a compromise bill that incorporated the Administration's key principles for bankruptcy reform. The Administration supports reform of the bankruptcy law that would require both debtors and creditors to act more responsibly: troubled debtors who can repay a portion of their debts should do so, but creditors should treat debtors fairly, in keeping with the creditors' superior expertise and bargaining power.

Consumer sentiment was buoyant during 1998, probably reflecting both the favorable fundamentals and expectations for continued economic growth. The consumer sentiment index of the Survey Research Center at the University of Michigan posted its highest reading in more than 30 years in early 1998. This optimism waned somewhat in the fall, but the Michigan index finished the year near the top of its historical range.

Business Investment

Real business fixed investment grew extremely rapidly during the first half of 1998, increasing over 15 percent at an annual rate, and then rose at a slower pace, on average, in the second half of the year. Sharp gains in purchases of producers' durable equipment (PDE) accounted for more than the total advance in business fixed investment during the first three quarters. Real PDE investment increased about 16 percent at an annualized rate over that period, exceeding its robust average annual growth rate over the preceding 3 years of 11 percent. Among its components, spending on computers and peripheral equipment surged 75 percent in real terms over the first three quarters of 1998 (annualized), and real spending on communications equipment jumped about 20 percent (annualized). (The causes and consequences of the recent boom in equipment investment are discussed further below.) Real PDE was little changed in the third quarter but apparently increased strongly again in the fourth quarter. Both

the third-quarter deceleration and the fourth-quarter pickup likely reflected fluctuations in motor vehicle sales.

Business investment in structures fell a bit in real terms during the first three quarters of 1998. Office construction was boosted by low and declining vacancy rates, but other commercial construction was sluggish, and industrial construction was held down by ample factory capacity. Spending in this category may also have been dampened by a tightening in available financing during the third quarter, although conditions in the commercial mortgage-backed securities market improved noticeably by the end of the year.

Investment in business inventories varied dramatically across the first three quarters of 1998. Inventories increased $91 billion in real terms at an annual rate in the first quarter, and the stepup in inventory investment relative to the fourth quarter of 1997 contributed over 1 percentage point to the annualized increase in first-quarter GDP. However, several quarters of strong inventory growth apparently persuaded businesses to reduce their rate of stockpiling in the second quarter; in addition, a strike at the Nation's largest automaker led to a decline in motor vehicle inventories. All told, the sharply lower rate of inventory accumulation in the second quarter subtracted over 2½ percentage points from second-quarter GDP growth. Inventory accumulation ran at a moderate pace during the third quarter.

Government

Federal Government consumption expenditures and gross investment contracted in real terms over the first three quarters of 1998, following a real decline during 1997. This measure of government spending, which is included in GDP, differs from unified budget outlays in a number of ways. Among the most important differences are that the GDP measure includes the depreciation of government capital and does not include transfer payments, interest, or grants to State and local governments. Defense purchases represent about two-thirds of Federal consumption expenditures and gross investment. During the first three quarters of last year, a roughly 2 percent annualized decrease in defense spending more than offset a roughly 1 percent annualized increase in the smaller category of nondefense spending.

Consumption expenditures and gross investment by State and local governments moved up over 2 percent at an annual rate over the same period, just below the average pace of the previous several years. Strong growth of household income boosted income tax collections considerably, and most State governments today appear to be in good financial condition.

International Influences

In 1998 the Federal Reserve Board replaced its traditional index of the foreign exchange value of the dollar with several new ones. New

indexes have been developed for three currency groups: a group of major currencies that are traded heavily outside of their home markets, a group of currencies of other important U.S. trading partners, and the aggregate of these two groups, labeled the "broad index." For each group the Federal Reserve calculates both nominal and price-adjusted indexes; all are defined such that a rise indicates a strengthening of the dollar. Because the indexes are designed primarily to measure U.S. competitiveness in world markets, the weights of the various currencies are based on market shares of U.S. goods in foreign markets and of foreign goods in U.S. and third-country markets, and these weights vary over time. Still, the new nominal index for the major currencies, when calculated retrospectively over the past 20 years, tracks the Federal Reserve's previous index fairly closely.

The foreign exchange value of the dollar continued its advance during 1997 into the third quarter of 1998, but then fell back. All three real indexes peaked in August or September and then declined sharply, ending at or below their values at the end of 1997. The nominal major currency index behaved similarly to the corresponding real index, but the nominal broad index and the nominal index relative to other important trading partners both increased, on net, over the year.

Real net exports (exports minus imports of goods and services) dropped roughly $100 billion over the first three quarters of 1998, holding down the growth rate of GDP (assuming the other components of GDP were unchanged) by about 1½ percentage points. The negative contribution of this category was considerably smaller in the third quarter than in the first half of the year. The current account balance (which includes international transactions in investment income and transfers, as well as trade in goods and services) deteriorated during 1998 as well, owing to both the drop in net exports and an increase in net payments of investment income to foreigners.

The decline in net exports stemmed from a combination of falling exports and rising imports. Real exports declined by about 4 percent at an annual rate during the first three quarters of 1998, following a 10 percent runup during 1997. This deterioration was attributable to weaker activity in a number of foreign economies, especially in Asia, as well as the higher value of the dollar (which itself was related to the contrast between foreign economic developments and U.S. economic strength). Real imports posted a 9 percent annualized advance during the first three quarters of 1998, below their increase during 1997, despite a sharper decline in import prices.

THE LABOR MARKET AND INFLATION

American labor markets enjoyed another excellent year in 1998, with both employment and real wages rising at impressive rates. (Chapter 3 includes a more extensive discussion of employment and compensation patterns and trends.) Meanwhile core consumer prices

(that is, excluding food and energy prices) increased at their slowest pace since the 1960s.

Employment

Nonfarm payroll employment expanded by about 2.9 million jobs during 1998. The number of manufacturing jobs slipped a bit, following small increases during 1996 and 1997. Weakness in this sector was probably linked to declining exports of goods. However, jobs in the services sector, which accounts for about 30 percent of nonfarm employment, posted another impressive gain. Nonfarm payrolls rose to 127 million by the end of the year, an increase of nearly 17.7 million jobs since January 1993. (Over this period, the increase in employment reported by firms significantly exceeds that reported by households. Part of this difference can be traced to differences in methodology between the payroll and household surveys, but the explanation for the remaining discrepancy is unclear.) Over 90 percent of the increase in jobs since 1993 has been in the private sector.

The unemployment rate averaged 4.5 percent in 1998, down from 4.9 percent in 1997. After falling for 6 straight years, the unemployment rate now stands about 3 percentage points below its January 1993 level. Indeed, the 4.3 percent rate in April and December of last year was the lowest since February 1970. Another measure of available workers is the sum of those who are looking for work (the official definition of unemployment) and those who would accept a job but have not been looking (so-called marginally attached workers, which include discouraged workers). In 1998 this combined group accounted for only 5.4 percent of the civilian labor force plus marginally attached workers, down from 5.9 percent in 1997 and 7.4 percent in 1994. The labor force participation rate—the percentage of the population over age 16 that is either employed or looking for work—leveled off in 1998 at 67.1 percent, after trending up between 1995 and 1997. The upward trend resulted from a marked increase in labor force participation by adult women and a respite from the previous slide in participation among adult men. In 1998 the participation rate for women was just below 60 percent, and that for men was almost 75 percent. The employment-to-population ratio—the proportion of the civilian population age 16 and older with jobs—averaged a record 64.1 percent last year.

Productivity and Compensation

Labor productivity in the nonfarm business sector increased by about 2.1 percent on an annual basis during the first three quarters of 1998, somewhat above the 1.7 percent gain of 1997. Measured productivity has risen much faster over the past 3 years than it did between the business-cycle peaks of 1973 and 1990, but much of the measured surge may be attributable to methodological changes and to output

growth that was above the economy's long-run potential. (Recent developments in productivity are discussed at greater length below.)

Compensation rose significantly during 1998. The employment cost index (ECI, a measure of wages, salaries, and employer costs for employee benefits) for workers in private industry moved up 3.6 percent (annualized) during the first three quarters of the year (according to the latest available data), continuing its acceleration of the previous several years. Wages and salaries increased 4.1 percent at an annual rate, while benefits climbed 2.4 percent. For the 12-month period ending in September 1998, compensation growth in construction and manufacturing was quite close to that during the previous 12-month period, but compensation growth in the service-producing industries picked up sharply. The acceleration in compensation was especially pronounced in the finance, insurance, and real estate sector, likely reflecting bonuses and commissions associated with higher volumes of stock trading, mortgage refinancing, and other financial sector activity.

Other measures of compensation also showed substantial gains during 1998. For example, average hourly earnings increased 3.8 percent over the year. Unlike the ECI, this series excludes benefits and covers only production and nonsupervisory workers, among other differences.

Because consumer prices increased so little during 1998, these nominal compensation gains translated into appreciable advances in real compensation. The increase in the ECI less the increase in the consumer price index (CPI) was 2.1 percent during the first three quarters of 1998, compared with the solid 1.7 percent gain during 1997. The increase in real average hourly earnings during the year was 2.4 percent, slightly above the 1997 growth rate, which was the fastest in more than two decades.

Prices

Inflation fell again in 1998 from its already subdued 1997 pace. The CPI increased by only 1.6 percent last year, just below its 1.7 percent rise during 1997 and well below its 3.3 percent rise during 1996. The chain-weighted price indexes for GDP and PCE both edged up less than 1 percent on an annualized basis during the first three quarters of 1998, well below their increases during the previous several years. The CPI rose at its slowest rate since 1986 and its second-slowest since 1964; the GDP price index rose at its slowest rate since 1961.

Much of the 1998 decline in inflation can be attributed to a significant slide in crude oil prices. Weak demand for oil in Asia together with plentiful worldwide supply helped push down CPI energy prices by almost 9 percent for the year as a whole. The so-called core CPI, which excludes the volatile food and energy components of the broader index, increased 2.4 percent during 1998, a little above the previous year's mark of 2.2 percent. However, in January 1998 certain methodological adjustments were made to the way the CPI is calculated; otherwise the core CPI

probably would have increased by about 2.6 percent last year, almost ½ percentage point faster than during 1997. On the other hand, core prices as measured by the chain-weighted price index for PCE excluding food and energy decelerated during 1998; this index increased by only 1.2 percent at an annual rate in the first three quarters of the year, compared with a 1.6 percent rise during 1997. The CPI and PCE price indexes differ in both coverage and methodology (as discussed later in this chapter). But by either measure, core inflation has dropped, on net, over the past several years. Indeed, core inflation has been lower during the past few years than at any time since the mid-1960s.

Several factors have helped to hold down core inflation despite the strong growth of aggregate demand and very tight labor markets. (The forecast section of this chapter further explores the reasons for recent low inflation.) Part of the reason why wage increases have not put more pressure on prices has been rapid productivity growth. In addition, corporate profits stand at roughly their largest share of national income during the past 30 years, and some wage increases have been offset by reduced profit growth of late. Another important contribution to low inflation has been declining prices of nonoil imports, as excess capacity in Asia and depreciating foreign currencies have encouraged foreign producers to reduce the dollar prices of their goods. Beyond their direct impact on the prices paid for imports, these overseas developments have discouraged domestic producers from raising their prices as much as they might have otherwise. Inflation has probably also been restrained by the strong increase in industrial capacity in the United States during this expansion. Although the unemployment rate was at a 29-year low in 1998, the average rate of capacity utilization in industry during the year was about equal to its long-term average.

Low inflation readings in 1998 were reinforced by a continued slide in expected inflation. Actual inflation depends on expectations of inflation, because the wage and price increases sought by workers and firms are influenced by the prices they expect to pay for other goods. According to the University of Michigan's survey of households, the median expectation for annual inflation over the next 5 to 10 years was about 2.8 percent in the fourth quarter of 1998, slightly below the late-1997 figure of 3.1 percent and well below the 3.6 percent reading of 6 years ago. Long-term inflation expectations of professional forecasters are even lower, according to the survey conducted by the Federal Reserve Bank of Philadelphia, but have fallen by a similar amount in recent years.

FINANCIAL MARKETS

Through much of the current expansion, falling interest rates and rising equity prices have provided important support to real economic activity. Indeed, the disruptions to foreign financial markets and

institutions that began in 1997 initially improved financial conditions in the United States, as shifting portfolio preferences helped to further reduce U.S. interest rates and boost U.S. equity prices. The resulting strength in domestic consumption and investment offset at least some of the dampening effect of the drop in net exports. However, the worsening of international conditions in the summer of 1998 changed the domestic financial situation dramatically. An intensified "flight to quality" by lenders and investors restricted businesses' access to credit and raised the average cost of their borrowing. But by the end of the year a significant easing of monetary policy and somewhat greater confidence in the international economic outlook had produced a substantial improvement in financial conditions.

THE EFFECT OF RISK ON INTEREST RATES AND EQUITY PRICES

Many of the developments in financial markets over the past several years have been linked to changing perceptions of risk. Therefore, to understand these developments, one must begin with the basic relationships among risk, interest rates, and equity prices. All ownership of financial assets involves risk, and because people generally want to minimize the uncertainty they face, they will hold riskier assets only if those assets pay higher expected returns. As a result, changes in perceived risk require adjustments in expected returns.

Consider debt securities, such as bonds. All bonds are subject to market risk, or the possibility that current yields, and therefore prices, will change to reflect changes in market conditions. Because bondholders generally receive fixed payments, increases in prevailing interest rates reduce, and decreases raise, the value of outstanding bonds. Most bonds are also subject to credit risk, or the possibility that the issuer will default on the bond's interest payments or on repayment of the bond's face value. Commercial paper—short-term debt securities issued by corporations—also has credit risk, but because of its short maturity it faces little market risk. Bank loans often have repayment terms similar to those of bonds, and therefore banks face both market risk and credit risk on their loans.

U.S. Treasury securities have essentially no credit risk, because people believe that the Federal Government will always meet its legal obligations. All private debt securities do have credit risk, and therefore the yields on those securities exceed the "risk-free" yield on Treasury debt. Private credit rating agencies assess the likelihood of default by private borrowers. Higher rated debt is deemed "investment-grade," whereas lower rated debt is called "speculative," "high-yield," or "junk." Changes in perceived riskiness affect the spreads between yields on these private debt issues and the risk-free Treasury yield.

Equities clearly involve risk as well. A simple model of equity pricing sets the price of a share of stock equal to the present discounted value of future dividends payable on that share. One risk facing equityholders, therefore, is that of changes in a company's dividends, which are often related to sustained changes in its earnings. Decreases in expected earnings growth reduce a stock's price-earnings ratio, or the price of a share as a multiple of the company's current earnings. Another risk for equityholders is that of changes in the discount rate that investors apply to future earnings. One can view the discount rate as the sum of the risk-free interest rate and a risk premium; increases in either component reduce the price of a share and thus the price-earnings ratio.

The average return to owning equity has exceeded the average return to owning debt securities over most long historical periods in the United States. Between 1946 and 1995, for example, the extra return from holding a portfolio of shares that matches the Standard & Poor's (S&P) 500 composite index (an index of share prices of 500 large, publicly traded U.S. firms) instead of a portfolio of Treasury bills averaged almost 7 percent per year. Because equity returns are more variable than bond returns, it is not surprising that equity returns are generally higher. But the difference in returns—the equity premium—has been larger on average than can be explained by stocks' greater riskiness and economists' traditional assumptions about investor behavior. The explanation for its size remains something of a mystery.

CHANGING RISK PERCEPTIONS AND FINANCIAL MARKET DEVELOPMENTS

The behavior of debt and equity markets during much of the current expansion suggests a substantial fall in the perceived riskiness of U.S. financial assets. Although this apparent trend in risk perceptions abated in the summer of 1997, when financial crises enveloped several East Asian economies, it did not reverse in significant measure until the late summer and fall of 1998, when risk premiums increased at an alarming rate. By the end of the year, risk premiums were declining again but remained much higher than when the year began.

Setting the Stage: The Reduction in Perceived Risk Prior to Mid-1997

In early 1997 both debt and equity markets reflected a significant relaxation in investors' concern about the riskiness of financial assets over the previous several years. Comparing instruments of similar maturity, the spread between the average yield on Baa-rated corporate bonds (Baa is the rating of the median corporate bond in terms of outstanding volume) and the 30-year Treasury yield was little changed between the first half of 1993 and the first half of 1997. However, the spread between the yield on high-yield bonds and the 10-year Treasury yield fell by about 1¾ percentage points between those two periods,

and spreads between bank loan rates and the Federal funds rate dropped as well. Equities also may have benefited from lower risk premiums, as a tremendous bull market raised price-earnings ratios appreciably between late 1994 and early 1997. However, isolating the effect of changes in risk perceptions on equity prices during this period is difficult, because a surge in stock analysts' forecasts of earnings growth probably also contributed to the price rise.

The observed reduction in risk premiums could have been caused by either an increased willingness to bear risk or a reduction in the amount of perceived risk. Because preferences toward risk probably adjust slowly, the latter explanation is much more likely. But why did risk perceptions change in this way? One possibility was growing speculation that the U.S. economy had entered a "new era," in which faster trend growth of real output, lower inflation, and business cycles of smaller amplitude or less frequency would be the norm. Another possibility was a strengthening belief that countries around the world would continue to move toward capitalism. Such a move might reduce the riskiness of certain investments in the United States, by improving access to overseas markets or limiting the danger of international conflict. The spread of capitalism might also raise the expected return to investments in developing countries; indeed, Table 6-1 and Chart 6-1 in Chapter 6 document a substantial increase in the flow of funds to developing countries before 1997.

A Flight to Quality

In the summer of 1997 perceptions of risk began to change. As emerging market economies in East Asia faltered, investors' desired portfolios shifted toward U.S. assets. The actual quantities of domestic and foreign assets in their portfolios adjusted slowly, because many commitments are long term, and in any case, international capital flows must be balanced by trade in goods and services and investment income in any given year. However, asset *prices* adjusted quickly, with yields and exchange rates moving to dampen potential capital flows. Increased demand for U.S. assets, combined with an improving Federal budget outlook and downward revisions to expected inflation, pushed U.S. interest rates down between mid-1997 and mid-1998. In choosing among domestic assets, investors became a little more cautious, but the widening of risk spreads was generally quite limited.

Equity prices were little changed, on balance, during the second half of 1997 but surged again during 1998. The S&P 500 jumped 22 percent between the beginning of 1998 and mid-July, and the NASDAQ composite (an index of over-the-counter stocks, including those of many startup and high-technology companies) rose 28 percent. Many stock valuation measures moved further beyond their historical ranges. For example, the ratio of stock price to lagging four-quarter earnings for the S&P 500 reached almost 29 at the end of the second quarter, the

highest level in at least 40 years and almost double its average value since 1956. Nor did low interest rates on risk-free securities fully explain this phenomenon. The gap between the earnings-price ratio (the inverse of the price-earnings ratio) and the real 10-year Treasury yield—the latter measured by the difference between the nominal 10-year rate and long-term inflation expectations in the Philadelphia Federal Reserve's survey of professional forecasters—was among the smallest in many years.

The extraordinary valuation of equities may have been partly attributable to stock analysts' expectations of very fast earnings growth. However, some market observers worried that these expectations were unrealistic: national income had been rising more rapidly than many economists believed was sustainable, and corporate profits already represented a larger share of national income than usual. Indeed, accelerating compensation of workers left profits in the third quarter of 1998 (the latest available data) slightly below their year-earlier level.

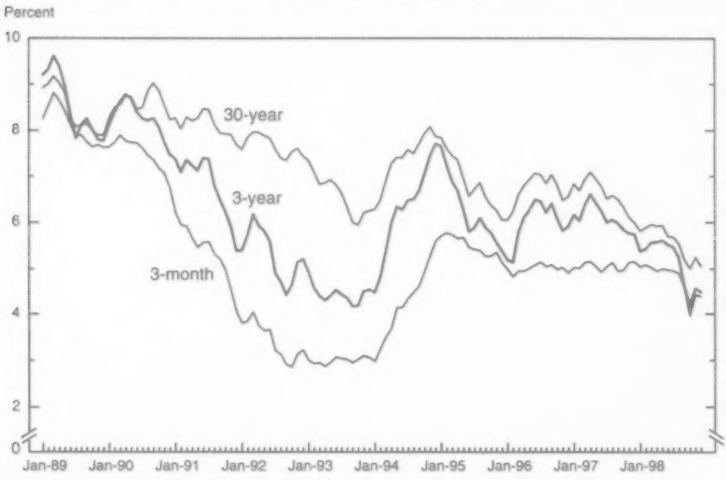
Stresses in U.S. Financial Markets

The flight to quality intensified dramatically during the late summer and fall of last year. The effective default on Russian government debt in August made clear that the dangers of financial turmoil—and the limited ability of international efforts to control that turmoil—were not confined to East Asia. In particular, the Russian debacle heightened fears of large-scale capital outflows from Latin America, where some economies were, like Russia, facing large fiscal deficits. The resulting uncertainty about future economic and financial conditions around the world caused a sudden, stunning shift in desired portfolios toward safer assets.

Between the end of July and mid-October, Treasury yields dropped sharply and risk premiums on private debt spiked upward (Charts 2-4 and 2-5). The spread between the yield on Baa-rated bonds and the 30-year Treasury yield rose almost 80 basis points, roughly matching its peak during the 1990-91 recession. The spread between the yield on high-yield bonds and the 10-year Treasury yield nearly doubled, moving from 3.7 percent on July 31 to 6.6 percent on October 14. Wider risk spreads were apparent in the market for short-term debt as well, with the difference between the average 3-month AA-rated nonfinancial commercial paper yield and the 90-day Treasury yield rising from 53 to 118 basis points. The increase in investment-grade bond spreads was more a reflection of falling Treasury yields than rising investment-grade yields (in fact, the latter were little changed on net), but businesses with lower credit ratings faced substantially higher costs of borrowing.

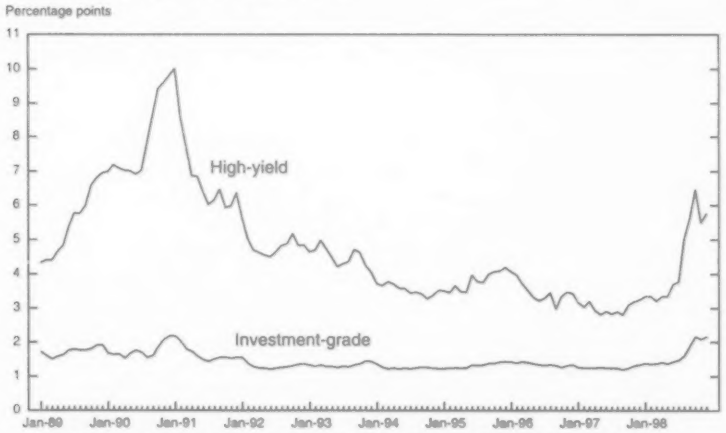
Part of the widening of spreads reflected greater concerns about credit quality in an economy that appeared to be facing an increasing risk of a sharp slowdown. Another part of the widening can probably be

Chart 2-4 **Yields on Treasury Securities**
Long- and intermediate-term Treasury yields declined in 1997 and then fell in the summer and fall of 1998. Short-term yields also fell sharply in the second half of 1998.



Source: Department of the Treasury.

Chart 2-5 **Risk Spreads**
Yield spreads between private securities and Treasury securities increased dramatically in the summer and fall of 1998.



Note: The investment-grade spread is the average yield on Baa-rated corporate securities less the 30-year Treasury yield. The high-yield spread is the average yield on high-yield bonds less the 10-year Treasury yield.
Sources: Department of the Treasury, Moody's Investors Service, and Merrill Lynch.

attributed to the lesser liquidity of private issues at a time when heightened uncertainty created larger liquidity premiums; we return to this issue shortly. In addition, less risk-averse investors (such as hedge funds, discussed later in this chapter) faced more cautious lenders during this period, which reduced their ability to purchase riskier or less liquid securities.

Market conditions also worsened along several other dimensions. Issuance of new debt dropped precipitously, with public offerings of nonfinancial corporate bonds falling roughly by half between July and September. In the high-yield sector, issuance virtually ceased in August and September. Dealers were reluctant to manage new offerings into the fall, probably because of the heightened uncertainty in financial markets and greater difficulty in placing new securities. Some firms substituted bank loans for financing in the securities market, and business lending by banks boomed. However, banks were not immune to the rising economic uncertainty, and they tightened their business loan standards and terms.

A further worrisome development was the increasing illiquidity of debt markets, especially after mid-September. Bid-ask spreads widened substantially, and dealers were less willing to enter into large transactions at posted rates. The price of liquidity climbed, too. So-called on-the-run Treasury securities are the most recently issued of a given maturity, and they are traded much more actively than off-the-run securities. Because of this greater liquidity, on-the-run issues usually offer yields that are a few basis points below off-the-run yields of similar maturity, but this gap widened considerably for 30-year bonds in late September. In addition, the yield spread between the Treasury's on-the-run conventional debt and its less liquid inflation-indexed debt fell much more sharply during this period than did survey measures of inflation.

Equity prices slumped as well. Between July 17 and August 31, both the S&P 500 and the NASDAQ lost about one-fifth of their value, falling a little below their levels at the beginning of the year. The Russell 2000 index of small-capitalization stocks had lagged behind other major indexes since the spring, and by the end of August it stood nearly 23 percent below its value at the beginning of the year. Equity issuance by nonfinancial corporations declined sharply in late summer as well.

These gyrations in financial markets took a toll on financial institutions. Share prices of money-center banks (which include some of the largest commercial banks) and investment banks fell much more sharply than the broad equity indexes, in the face of rising concern about exposure to emerging markets, the quality of loan portfolios, and possible losses from securities trading activities. Nevertheless, the underlying strength of the commercial banking system—which enjoyed generally high profits, low delinquency and charge-off rates,

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and ample capital—may have helped contain the financial market deterioration. However, several hedge funds lost large sums of money, and one very large fund narrowly averted default (as discussed in the next section).

All of these developments raised fears of a credit crunch that could have significantly limited firms' access to external financing and thereby slowed capital investment and GDP growth. (Household borrowing did not appear to be hampered by market conditions, as mortgage rates declined and banks reported no change in terms or standards on consumer loans.) As already noted, the FOMC cut the Federal funds rate by ¼ percentage point at the end of September, but market participants' desire for safety and liquidity showed no sign of diminishing. In response, the FOMC cut the funds rate by a further ¼ point in mid-October, explaining that "growing caution by lenders and unsettled conditions in financial markets more generally are likely to be restraining aggregate demand in the future." The October drop in the funds rate was the first policy change between regularly scheduled FOMC meetings since 1994, suggesting to market participants that the Federal Reserve had taken an aggressive easing posture.

Calm Restored

After this second rate cut, the stresses in financial markets began to abate. Risk and liquidity premiums fell back a little, and debt issuance picked up in both the investment-grade and the high-yield sectors. The FOMC made a third ¼-point cut in the Federal funds rate at its November meeting, noting that, despite an improving situation in financial markets, "unusual strains" were still present.

Financial market conditions stabilized further during the remainder of the year, and growth in bank loans eased as borrowers returned to the capital markets. Nevertheless, risk spreads remained significantly wider than when the year began, and Treasury yields stayed low. The yield on Baa-rated corporate debt was little changed in 1998, but that on high-yield debt increased by about 1½ percentage points. Banks reported a further tightening of loan terms and standards in November, but average interest rates on their commercial and industrial loans were lower in late 1998 than in late 1997.

Equity markets were little changed, on net, between the end of August and early October, but from there they climbed rapidly to new highs (Chart 2-6). Between October 8 and year's end, the S&P 500 gained 28 percent and the NASDAQ 55 percent. For the year as a whole the S&P 500 and the NASDAQ were up 27 and 40 percent, respectively, but the Russell 2000 lost 3 percent. The Wilshire 5000, the broadest index of U.S. equity prices, finished 1998 roughly 22 percent above its value at the end of 1997, achieving its fourth consecutive year of double-digit increases.

Chart 2-6 **Equity Prices in 1998**
Stock markets rose strongly in the first half of 1998, fell sharply between mid-July and the end of August, and surged again after early October.

Sources: National Association of Securities Dealers Automated Quotations and Standard & Poor's.

The striking changes in financial market conditions over the past year and a half had—and will continue to have—important effects on real economic activity in the United States. Before discussing these effects, however, it is worth examining in greater detail one type of financial institution that was hit especially hard by the turmoil of last year.

NEW CONCERNS ABOUT HEDGE FUNDS

In late September a group of large financial institutions urgently invested $3.5 billion in Long-Term Capital Management (LTCM), a prominent hedge fund, to prevent its imminent collapse. Representatives of these firms—which were already LTCM's principal creditors—had been encouraged to undertake the rescue by the Federal Reserve Bank of New York, which feared that a sudden failure of the fund could significantly disrupt financial markets. The New York Federal Reserve Bank did not set the terms of the rescue or invest public money. Nevertheless, the episode prompted serious questions about the economic effects of hedge funds and appropriate public policy toward them.

What Are Hedge Funds?

The label "hedge fund" is usually applied to investment companies that are unregulated because they restrict participation to a relatively small number of wealthy investors. No precise figures are available, but the amount invested in hedge funds as of mid-1998 appears to

have been around $300 billion. Hedge funds follow a variety of investment strategies, but they often make combinations of transactions with various counterparties designed to focus their risk exposure on certain specific outcomes. (Derivative instruments, such as futures and options, can be an efficient way to structure these transactions, but are not the only way.) For example, if a fund expects the yield spread between mortgage-backed securities and U.S. Treasuries to decline, it can buy the former and sell the latter short (which means selling securities that the fund has borrowed but does not own). Identical movements in the yields of the two types of securities will be a wash for the fund, but a narrowing of the yield spread will make it a profit by increasing the value of the mortgage-backed securities relative to the Treasuries. Of course, this focusing of risk does not eliminate risk, as an unexpected widening of the spread will create a loss for the fund.

Hedge funds can play a useful economic role by bearing risk that would otherwise be borne by more risk-averse businesses and individuals. Hedge funds can also reduce inefficiencies in asset pricing by exploiting discrepancies in prices relative to economic fundamentals or historical norms. Their activity causes these discrepancies to narrow, increasing liquidity by ensuring that other market participants can buy and sell securities at consistent prices.

LTCM had made a variety of investments all over the world, focused primarily on the expectation that various financial market spreads and volatilities would converge to their historical norms. Instead, the flight to quality in 1998 increased volatility and sharply widened risk and liquidity spreads in many markets simultaneously, causing many of LTCM's bets to lose money. Compounding these bad outcomes was the huge amount of borrowing that LTCM had used to finance its transactions; through this heavy leveraging of its equity capital, the fund had raised its return when its investment decisions were correct, but had also reduced its margin for error. Before its final crisis, LTCM had only $4 billion or so of equity capital, but over $100 billion in assets and sizable positions in futures contracts, forward contracts, options, and swaps.

If LTCM had defaulted, its creditors and counterparties could and probably would have tried to cover their losses by selling the collateral LTCM had pledged to them. The counterparties would also have tried to rehedge newly exposed positions, which would have put additional strains on markets at a time when risk and liquidity premiums were already rising sharply. Because many of LTCM's investment positions were quite specialized, or were large relative to the markets in which they traded, rapid liquidation and rehedging by counterparties would probably have caused big swings in some market prices. The New York Federal Reserve Bank was especially concerned *not* about the direct losses that creditors and counterparties would have incurred, but

about the potential impact of large price movements on other investments by these firms and on the investments of the many individuals and institutions not associated with LTCM.

By investing several billion dollars of new capital in LTCM, its principal creditors and counterparties prevented the firm's immediate default. These firms probably saved money as a result, because unwinding LTCM's portfolio gradually was expected to be much less disruptive to markets and prices than a sudden liquidation.

Regulation of Hedge Funds

The near collapse of LTCM raised questions about the proper regulatory stance toward hedge funds and other institutions that actively trade securities and derivative instruments. Currently, hedge funds face far less regulatory scrutiny than do many other financial institutions. No government agency is charged with their direct supervision. For example, hedge funds are exempt from the Investment Company Act of 1940 (which provides for regulation of mutual funds) because of their restrictions on participation. However, hedge funds' creditors and counterparties provide some degree of "market regulation" by evaluating the funds' collateral, investment positions, and equity capital before doing business with them. The care exercised by these creditors and counterparties is, in turn, monitored to some extent by the government regulators of those institutions. These regulators include the Federal Reserve Board and the Office of the Comptroller of the Currency (OCC) for banks, the Securities and Exchange Commission (SEC) for broker-dealers, and the Commodity Futures Trading Commission (CFTC) for futures commission merchants.

Of course, lending institutions' techniques for managing their credit risks are not perfect, and market regulation cannot prevent all problems arising from hedge funds. Moreover, some financial firms that are likewise largely unregulated, such as certain broker-dealer affiliates, also engage in leveraged trading strategies. Following the near collapse of LTCM, the Secretary of the Treasury called on the President's Working Group on Financial Markets, which he chairs, to study the implications of the operations of firms such as LTCM and their relationships with their creditors. (This working group was established by executive order in 1988. Its members are the Secretary of the Treasury, the Chairman of the Board of Governors of the Federal Reserve System, the Chairman of the SEC, and the Chairperson of the CFTC. Additional participants are the Federal Deposit Insurance Corporation, the Office of Thrift Supervision, the New York Federal Reserve Bank, the OCC, the National Economic Council, and the Council of Economic Advisers.)

Should there be more government regulation of hedge funds and other highly leveraged financial institutions? One justification for regulating financial institutions generally is to reduce systemic risk—the

chance of a general breakdown in the functioning of financial markets. This risk arises largely from the asymmetry of information that is intrinsic to capital markets. Because market participants have difficulty judging the financial health of institutions, they cannot fully understand the risk of their investments. Moreover, bad news about one firm can have a contagion effect on others, reducing their access to capital as well. This spillover effect may have been exacerbated by financial innovation, which has linked the fortunes of financial institutions in ever more complex and subtle ways. Further, when financial institutions fail, asset prices in illiquid markets may overshoot their long-run values.

But even if market participants had better information and more fully understood the risks of their investments, they might take more risk than is socially desirable. Of course, every firm has an incentive to restrain its risk taking in order to protect its capital, and firm managers have an incentive to protect their own investments in the firm. However, no firm has an incentive to limit its risk taking in order to reduce the danger of contagion for other firms. In addition, some firms take more risk because of deposit insurance, which makes it easier for banks to attract depositors without having to demonstrate financial soundness. Some very large firms may take additional risk because they believe that the government views them as "too big to fail" and would step in to prevent their collapse.

The collapse of LTCM might have posed a larger systemic risk than the collapse of almost any other hedge fund at almost any other time. Few institutions are as large or as leveraged as LTCM was, and the market strains that its default would have provoked would have been especially severe during the extreme worldwide flight to quality and liquidity that occurred last fall. One can argue that the risk management practices of both hedge funds themselves and the firms with which they deal should give more weight to the likelihood of such unusual events, and indeed the experience of 1998 may have chastened financial institutions in this regard.

Despite the risks just described, determining the appropriateness of government regulation of hedge funds and other leveraged institutions is not straightforward. The study by the President's working group, expected to be completed early this year, will address a number of possible regulatory issues, including disclosure and leverage. With respect to disclosure, it appears that LTCM's creditors lent to the fund on the basis of insufficient information, or failed to analyze adequately the information they had. Market participants now appear to be demanding more disclosure from hedge funds, which is a positive development. The working group is exploring whether the government should require additional disclosure to counterparties, creditors, investors, regulators, or the public.

With respect to leverage, the degree of LTCM's leverage caused the risks in its portfolio to be transmitted more rapidly to other market participants. Creditors to hedge funds now appear to be reducing the amount of leverage they are willing to provide, which is another positive development. In addition, bank regulators can employ their existing regulatory tools to induce banks to make more prudent decisions. The working group is evaluating whether the government should do more to discourage excessive leverage, and if so, what specific steps might be appropriate.

FINANCIAL MARKET INFLUENCES ON SPENDING

The financial market developments described in this section have had a significant impact on household and business spending. This impact has been felt through several channels, including wealth effects, effects on interest rates, and effects on the availability of credit to businesses.

Wealth and Consumption

An increase in a person's net worth raises the amount that he or she can consume, either today or in the future. Statistical evidence suggests that consumer spending has tended to rise or fall by roughly 2 to 4 cents per year for every dollar that stock market wealth rises or falls. This wealth effect usually occurs over several years, but much of the adjustment is seen within 1 year. The effect might be larger today than in the past because more Americans own stocks: the Survey of Consumer Finances shows that 41 percent of U.S. families owned stocks directly or indirectly in 1995, compared with 32 percent in 1989. However, there is little direct evidence on this point.

The dramatic increase in stock prices over the past few years has provided a significant impetus to consumer spending. Applying the historical relationship cited above to the change in total household wealth (which includes other assets and liabilities as well as stocks), one could conclude that rising wealth boosted consumption growth by nearly a percentage point during 1998, after a similar increase during 1997. Robust spending has, in turn, led to a dramatic decline in households' saving out of income from current production, with the personal saving rate falling to a historical low of 0.2 percent in the third quarter of last year. (Net private saving, which combines personal saving and undistributed corporate profits, has also declined as a share of national income during the past few years, but less sharply than has personal saving.)

The sharp decline in household saving in recent years became more apparent after the annual revision of the national income and product accounts in July 1998. Prior to the revision, capital gains distributions by mutual funds had been included in personal income (just as interest payments are), which bolstered measured personal saving. But

these distributions do not represent income from current production, and the revised data correctly exclude them from income. The revision lowered the measured personal saving rate, and by a greater amount in more recent years because capital gains distributions by mutual funds were greater. However, the revision had no effect on private saving, because the markdown of personal saving was automatically offset by an increase in the measured undistributed profits of the mutual fund industry.

Interest Rates and Consumption

Changes in interest rates affect household spending through various channels. Consider a decline in rates. This tends to boost the value of stocks and bonds, which has a wealth effect on consumption as discussed above. In addition, lower rates encourage spending on houses, automobiles, and other durable goods often bought on credit, while reducing the return on new saving. Moreover, a decline in interest rates augments homeowners' cash flow by reducing payments on adjustable rate mortgages and spurring mortgage refinancing. At the same time, however, lower interest rates work to reduce spending in several ways. Household cash flow is diminished by a drop in interest income, and people who are saving to reach a target level of wealth need to save more to reach that target. On balance, lower rates probably stimulate household spending, and higher rates probably dampen it, but the magnitude of these effects is unclear.

Nominal interest rates on Treasury securities reached unusually low levels last year. For example, for the year as a whole, the average 10-year Treasury yield was the lowest since 1967, and at the peak of the financial market stress in early October the 10-year yield touched its lowest value since 1964. Real Treasury yields (as measured by the difference between nominal yields and survey measures of inflation expectations) were also low, although less exceptionally so. Interest rates facing household borrowers did not fall as sharply as did Treasury rates last year; for example, interest rates on consumer loans from commercial banks were only slightly lower in 1998 than in 1997, and credit card rates were roughly unchanged. But rates on fixed rate mortgages averaged more than ½ percentage point lower in 1998 than in 1997.

Financial Conditions and Business Investment

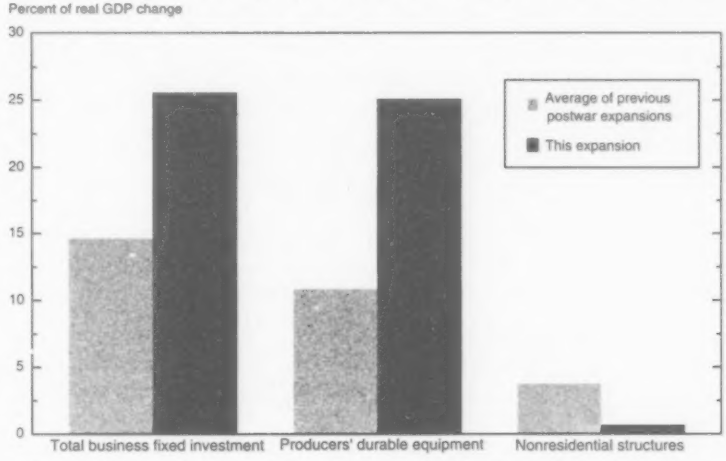
For several years through mid-1998, businesses enjoyed ready access to external funding on favorable terms. This circumstance was one of the factors encouraging the brisk pace of capital investment, as reported in the following section. Last year's sudden flight to quality changed this situation abruptly, raising borrowing costs for some businesses and limiting others' ability to borrow. However, one should not overstate the impact of these developments on economic activity. As

noted earlier, investment-grade borrowers faced essentially the same cost of long-term debt capital at the end of 1998 as at the beginning, although riskier borrowers saw their borrowing costs rise. Financial markets and institutions continued to funnel substantial funds to businesses. Moreover, most businesses do not face an overwhelming burden of servicing existing debt. The aggregate debt-service burden for nonfinancial corporations—measured as the ratio of net interest payments to cash flow—fell roughly by half between 1990 and 1996 and then slipped a little further in the following 2 years.

THE INVESTMENT BOOM

Business investment in plant and equipment has grown remarkably rapidly during the 1990s. Chart 2-7 shows that real business fixed investment has contributed about one-quarter of real GDP growth during this expansion, compared with an average of roughly 15 percent during previous expansions since World War II. Outlays for producers'

Chart 2-7 **Contribution of Investment to Overall GDP Growth**
Total business fixed investment has accounted for a much larger share of real GDP growth in this expansion than in previous ones, due entirely to equipment investment.



Sources: Department of Commerce (Bureau of Economic Analysis) and National Bureau of Economic Research.

durable equipment have been especially strong, increasing at an average annual rate of more than 10 percent in real terms and contributing more than twice as large a share of GDP growth as during previous expansions. In contrast, real investment in nonresidential structures has barely changed, on net, contributing almost nothing to output growth during this period.

CAUSES OF THE BOOM

The pace of investment depends on decisions made by myriad individual firms, each reacting to a variety of forces. Still, one can identify at least four general factors that have contributed to the recent surge in investment.

Rapid Output Growth

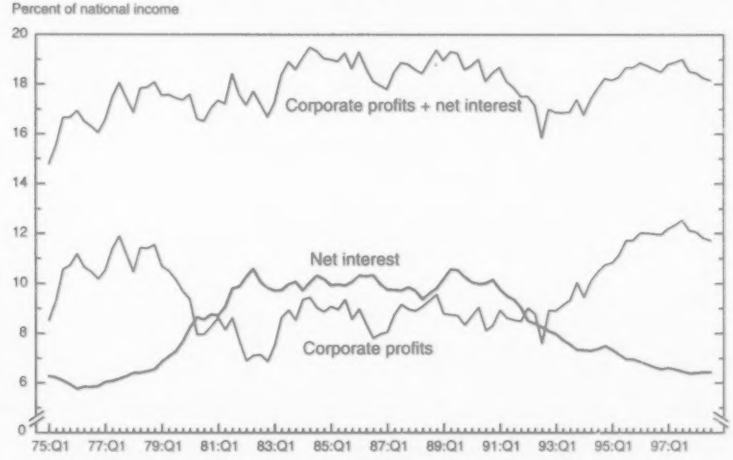
One key factor is the rapid growth of output during the past several years. In a simple model, a firm's desired capital stock depends on its expected sales, as well as on the cost of capital and other factors. An increase in expected sales induces an increase in desired capital, which requires investment. The level of investment thus depends on the *change* in sales; if one views sales as the rate at which firms are distributing their products, the change in sales is an acceleration of that rate, and this sort of model is therefore called an "accelerator model."

A pure accelerator model expresses aggregate investment only as a function of output growth, typically with several lags built in to capture both a gradual adjustment of sales expectations and a gradual adjustment of the capital stock to its desired level. The capital stock adjusts gradually because firms often choose to install new capital slowly, in order to reduce the cost of installation. Research using more elaborate accelerator models shows that they can explain a large share of the variation in equipment investment over the past several decades, and a smaller share of the variation in building of nonresidential structures. Of course, the observed correlation between output growth and investment reflects not only the influence of the former on the latter but also the reverse: strong investment also boosts output. Nevertheless, strong demand outside of the investment sector in recent years has clearly helped to boost investment demand through this accelerator effect.

Robust Profits

A second factor underlying strong investment has been robust corporate profits. Although profit growth waned in 1998, economic profits (defined as book profits adjusted for changes in inventory valuation and for capital consumption) represented almost 12 percent of national income in the first three quarters of 1998, well above the 1980s peak of about 9 percent. (Profits peaked at over 14 percent of national income in the 1960s.) The increasing share of profits in national income over the past 5 years is mirrored by a declining share of net interest payments (Chart 2-8); the sum of these components now represents roughly the same portion of national income as during the 1980s. Thus, much of the runup in profits has been simply a shift in capital income from debtholders to equityholders. After-tax profits—which represent the funds available for payments to stockholders and

Chart 2-8 **Corporate Profits and Net Interest Payments**
The corporate profit share of national income has risen recently while the net interest share has fallen. The sum of these pieces of capital income has varied less.



Note: Corporate profits includes inventory valuation and capital consumption adjustments.
Source: Department of Commerce (Bureau of Economic Analysis).

for investment—have also made up an unusually large share of national income in recent years.

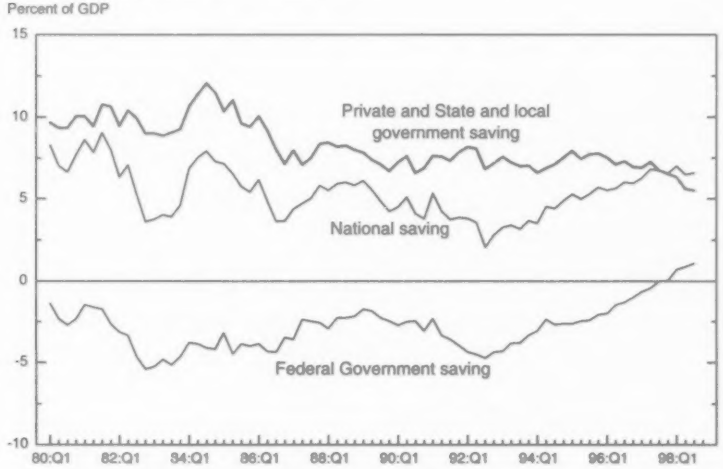
Profits can affect investment in two ways. First, high returns to existing capital may help persuade firms that the return to new capital investment will be high as well. Second, high profits allow firms to purchase capital using internally generated funds, which are generally less expensive to the firm than external funds (the proceeds of borrowing or the sale of shares). This difference in cost arises because lenders know less about a firm's investment projects and financial condition than the firm itself does. Their informational disadvantage creates so-called agency problems, which include both moral hazard (firms may alter their behavior in ways that raise their lenders' risk without the lenders' knowledge or acquiescence) and adverse selection (firms that seek external funds will tend to be those with riskier projects). Thus, the information asymmetry between firms and potential lenders raises the cost—and sometimes restricts the quantity—of funds raised in financial markets.

Plentiful External Capital

A third reason for the impressive recent pace of investment has been the ready availability of external funding. In particular, the dramatic reduction in Federal Government borrowing has left more resources available for private use. The domestic source of new loanable funds in the economy is national saving, which equals saving by the Federal

Government plus saving by households, businesses (in the form of undistributed after-tax profits), and State and local governments. Since 1992, net private and State and local government saving has declined slightly as a share of GDP, but the surge in Federal receipts relative to expenditures has more than offset that dip (Chart 2-9). Over this period, net national saving has more than doubled as a share of GDP, rising from 3 percent to 6½ percent—its highest level since 1984. (Net saving equals gross saving less the consumption of fixed capital.)

Chart 2-9 **Net National Saving and Its Components**
Net national saving has increased substantially since 1992, owing entirely to an increase in saving by the Federal Government.



Source: Department of Commerce (Bureau of Economic Analysis).

An alternative approach to evaluating the availability of external funding is to focus on the price or cost of those funds—the interest rate—rather than the quantity. Both price and quantity depend on business investment decisions. A high level of desired investment creates strong demand for loanable funds, pushing up their cost and perhaps increasing the quantity of funds supplied by savers. Therefore, if saving and desired investment for any given interest rate both increase, the equilibrium interest rate can either rise or fall. This ambiguity makes movements in the cost of borrowed funds an unreliable indicator of shifts in the supply of funds. As already noted, however, the increase in the supply of loanable funds during the past several years came entirely from a reduction in government dissaving, which is largely independent of investment demand. (It is not entirely independent because part of the improvement in government finances

is attributable to the strong economy, which in turn is due partly to strong investment.)

In addition to national saving, another source of funds for investment is capital inflows from abroad. In the national income and product accounts, domestic investment equals national saving (plus a statistical discrepancy) less net foreign investment, which is the amount that domestic residents are lending abroad less the amount that foreigners are lending to us. Net foreign investment has been significantly negative on average during this decade (that is, foreigners have been investing more capital in the U.S. economy than Americans have been investing abroad), as it was during the 1980s, providing additional resources for domestic investment. As with private domestic saving, however, the net capital inflow depends partly on the demand for investment funds, so it cannot be considered an independent cause of strong investment.

Falling Computer Prices

A fourth factor spurring investment during the past several years has been a remarkable drop in the price of computers. (Prices have also fallen for some other capital goods, although less dramatically.) Continued technological advances pushed down the chain-weighted price index for business computers and peripheral equipment by about 30 percent at an annual rate during the first three quarters of 1998, following declines of around 25 percent during both 1996 and 1997. The combination of falling prices, new products, more innovative applications of existing technology, and concerns about the year 2000 problem (discussed later in this chapter) has sharply boosted outlays in this area. Between the end of 1995 and the third quarter of 1998, nominal computer spending increased roughly 30 percent, and real computer spending tripled. Nominal computer spending is now roughly twice what it was at the end of the 1980s, and real computer spending is about 12 times as large. This exceptional advance in real computer spending has comprised a significant part of growth in real equipment investment.

IMPLICATIONS OF THE INVESTMENT BOOM

The 1990s boom in business fixed investment has generated a significant increase in the Nation's stock of business capital. The larger capital stock has benefited the economy in two important ways: it has helped restrain inflation by increasing industrial capacity, and it has helped raise productivity.

Capacity Utilization and Inflation

When demand for resources in the economy exceeds supply, inflation usually results. The simplest measure of the utilization of labor resources is the unemployment rate. Inflation often rises when labor

markets are tight, because competition for workers among firms puts upward pressure on wages; if these wage increases are not matched by increases in productivity, firms face higher costs of production and raise their prices as a result. Consequently, the unemployment rate is useful in predicting inflation, although of course the relationship is far from perfect.

The simplest measure of the utilization of capital resources is the capacity utilization rate. Inflation often rises when capacity utilization is high because the marginal cost of production is higher in those situations, and higher marginal costs can lead to higher prices. The capacity utilization rate reported by the Federal Reserve Board is the ratio of the actual level of output to a sustainable maximum level of output (or capacity), based on a realistic work schedule and normal downtime. The Federal Reserve produces these numbers for the industrial sector (manufacturing, mining, and utilities) only, using data from the Survey of Plant Capacity collected by the Census Bureau. The correlation between the capacity utilization rate and acceleration of the core CPI is positive and fairly high, even though capacity utilization data apply to only a portion of the economy. (Because final demand for services is more stable over the business cycle than final demand for goods, the focus of capacity utilization on the goods-producing sector may not represent a significant obstacle to predicting cyclical pressures for inflation.) In time-series models, capacity utilization is often an important predictor of inflation, and several studies have found that the nonaccelerating-inflation rate of capacity utilization (analogous to the nonaccelerating-inflation rate of unemployment, or NAIRU) is close to the mean value of that series.

Despite the historical relationship between the unemployment rate and inflation, the very low unemployment rate of the past several years has not produced an increase in inflation. Indeed, core inflation has dropped, on net, during this period. One factor that may have helped hold down inflation is the rapid pace of investment, which has caused total industrial capacity to grow faster in each of the past 4 years than in any other year since 1967, when the series began. As a result, capacity utilization has stayed fairly close to its long-run average since 1996 in spite of substantial output growth and rising utilization of labor resources.

Productivity

The accumulation of capital boosts the productivity of labor through capital deepening, or increases in the quantity or quality of capital per worker. New capital can also embody technological advances or innovative ways of organizing work that raise the productivity of both labor and capital, known as multifactor productivity or total factor productivity.

The Bureau of Labor Statistics breaks down growth in potential output into changes in the quantity of labor and changes in labor

productivity; the latter is in turn broken down into changes in labor quality, changes in the quantity and quality of capital, and changes in multifactor productivity. Between 1990 and 1996 (the last year for which the breakdown is officially tabulated), labor productivity in private business increased at an average rate of 1.1 percentage points per year. Improvements in labor quality accounted for 0.4 percentage point, and capital deepening contributed about 0.4 percentage point. (In comparison, capital deepening contributed 0.7 percentage point to multifactor productivity growth between 1979 and 1990. Although gross business fixed investment has increased significantly as a share of GDP during the past 6 years, it represented a smaller share of GDP on average between 1990 and 1996 than between 1979 and 1990. Net business fixed investment, which determines the change in the business capital stock, was also a smaller share of GDP on average during the later period.) Gains in multifactor productivity represented the remaining 0.3 percentage point of labor productivity growth, part of which may be related to capital investment, although such an effect is difficult to quantify.

Some observers are surprised that the torrid pace of computer investment has not had a more apparent effect on productivity growth. As noted earlier, much of the acceleration in measured labor productivity during the past 3 years may owe to methodological changes and cyclical dynamics rather than fundamental advances such as the increasing use of computers. One factor limiting the impact of the information technology revolution on productivity is the relatively small share of this type of capital: computers and peripheral equipment still represent less than 5 percent of the total net stock of equipment and less than 2 percent of net nonresidential fixed capital. And the small base of computer capital means that many years of brisk investment would be needed before computers could represent an appreciable part of the capital stock.

Even so, computers could have a large effect on productivity if the rate of return to computer capital were especially high. In conventional growth accounting, such as the calculations made by the Bureau of Labor Statistics, unusually high returns to computers would appear as higher multifactor productivity. However, measured multifactor productivity has not increased especially rapidly during the 1990s. Measurement error could play a role here, as a substantial part of the output of computers is intangible and may not be captured in the national income accounts. Yet mismeasurement of output has been a perennial problem for national income accounting, and whether this problem is worse in the computer age is not clear.

More fundamentally, the full benefits of the dramatic advance of computer technology may still lie ahead of us. Economic historian Paul David has compared the computer revolution to the transition to electric power in the late 19th and early 20th centuries. He noted that

the productivity gains from the electrification of manufacturing were not large at first but became quite substantial several decades after the opening of the first central power station. Box 2-1 examines the hypothesis that rising productivity follows major technical innovations with a considerable lag, and considers whether productivity patterns in the information age are likely to mirror those that followed the widespread adoption of electrical power.

MACROECONOMIC IMPLICATIONS OF THE Y2K PROBLEM

It is now less than a year until the widely anticipated arrival of the year 2000 problem, called Y2K for short (or, more colorfully, the "millennium bug" or "millennium bomb"). Many older computer programs, including those running on microprocessors embedded in other electronic products, encode the current year using only the last two digits. Thus, when January 1, 2000, arrives, they may fail to recognize "00" as

Box 2-1.—The Electrical Revolution, the Computer Revolution, and Productivity

Although the electric dynamo was invented well before the turn of the century, it did not seem to fuel large gains in productivity until many years later. One economic historian reports that U.S. productivity grew more slowly between 1890 and 1913 than previously, but it increased rapidly between 1919 and 1929, and he attributes half of the acceleration in manufacturing productivity relative to the preceding decade to growth in electric motor capacity. Drawing a parallel between this episode and the spread of computing technology in our own time, he argues that an extended process of technological diffusion may now be under way, which may yield large productivity gains in the future. Others have noted similar lagged productivity effects following the introduction of steam power and the development of the automobile.

The slow diffusion of electric power may be explained primarily by the need to build new factories and redesign manufacturing processes in order to take full advantage of the new technology. Many manufacturers would have gained little from simply replacing a large steam power unit with a large electric power unit in the same factory. Substantial cost savings *were* available over time from building new factories: electric-powered factories could be single-story and less sturdy, machinery could be reconfigured more easily, and the flexibility of wiring meant that portions of plants could be shut down individually. However, new construction was generally unprofitable until existing plants had

the year 2000, mistaking it instead for 1900. The result could be incorrect output or total system failure. Although it sounds to many at first like a trivial matter, of interest only to computer engineers and programmers, in fact the Y2K problem is potentially extremely serious, given the central role that computer technology has taken in our lives. Problems caused by the Y2K bug in one company, industry, or sector may have widespread consequences in others.

There are many conceivable Y2K disaster scenarios. Most involve disruptions to some critical infrastructure that links the rest of the economy together, such as transportation systems, power distribution grids, or telecommunications or financial networks. Such disruptions would likely have effects that are more than proportionate to the size of the sector directly affected. Some observers warn that in January 2000 planes may stop flying, telephone traffic may be disconnected, financial transactions may not go through, power grids may shut down, and so on. Others have worried that Social Security recipients might not receive their checks (although, as Box 2-2 notes, the Social

Box 2-1.—*continued*

depreciated. In addition, a relatively loose industrial labor market at the turn of the century kept the price of labor low and discouraged manufacturers from substituting capital for labor. Real wages in the United States did not rise enough to motivate significant expansion of the capital stock until immigration from Europe was curtailed during World War I. Lastly, implementing the new processes throughout the economy required a considerable supply of specialized talent—electrical engineers and factory architects experienced in the new designs—which developed only slowly.

Whether productivity in the information age will follow the path of productivity in the electric age remains to be seen. The introduction of computer technology is similar in many ways to the transition to electric power. Integrating computers into the work environment is not a straightforward matter: firms are clearly still adapting the organization of work to take maximum advantage of the new technology. At the same time, the diffusion of computers differs from the spread of electricity in important ways. For example, computers have already spread through the economy much faster than electric power did, at least in part because of their plunging prices. The historical analogy is intriguing and has appealing implications, but even its main proponent warns against taking it too literally. It is simply too soon to know whether the computer revolution will generate a surge in productivity growth ahead.

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Box 2-2.—Preparing Federal Systems for the Year 2000

The Federal Government is a sufficiently large player in the economy that a failure of its own operations due to the Y2K problem would cause great inconvenience and hardship to many Americans, even if it did not impact the macroeconomy. The Federal Government operates some of the largest, most complex computer systems in the world, which provide services to millions of Americans. At the Social Security Administration (SSA) alone, information systems track annual earnings for more than 125 million workers, take 6 million applications for benefits each year, and make monthly benefit payments to 48 million Americans. The Federal Government also exchanges vast amounts of information with the States, which administer key Federal programs such as the food stamp program, Medicaid, and unemployment insurance.

Preparing Federal systems for the year 2000 is an enormous challenge, and agencies have mounted aggressive efforts to ensure that their critical services will not be disrupted. SSA was the first agency to begin work on the Y2K problem, as long ago as 1989. By 1995 several agencies had Y2K projects under way and were sharing information with each other about their efforts. In 1995 the Office of Management and Budget (OMB) formed an interagency committee, which it asked the SSA to chair, to coordinate the various Federal efforts. In 1996 the Chief Information Officers Council was assigned the responsibility of building on and overseeing the committee's work.

Since early 1997 the OMB has produced quarterly reports on agencies' progress in assessing, remediating, testing, and implementing critical systems. The Administration has established a goal of having all critical systems compliant by March 1999. As of November 15, 1998, 61 percent were already compliant, up from 27 percent a year earlier. A small percentage of critical systems

Security Administration is already Y2K-compliant) and even that hospital life-support systems might shut down.

Huge efforts to address the Y2K problem have been under way for some time, especially in large corporations and financial markets and in the U.S. Government (see Box 2-2 on Federal Y2K efforts; see also Box 5-3 in Chapter 5, on the Administration's initiative to encourage Y2K information sharing among companies). The American economy is large, diverse, and resilient, and people will find ways around those disruptions that, despite everyone's best efforts, will inevitably occur. But it is essential to guard against complacency. Some, in particular some smaller companies and some State and local governments, have not yet gotten the message.

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Box 2-2.—*continued*

are not expected to meet the March goal, and their agencies have been instructed to produce specific benchmarks showing how they will complete work on these systems before January 1, 2000, and to create contingency plans where necessary.

Federal payment systems are of particular concern to the public and the economy. Social Security and veterans' benefits systems are already compliant, and the Internal Revenue Service appears well on its way to being able to collect and process tax returns and issue refunds in a timely manner. For Medicare, which continues to face major system challenges, the Health Care Financing Administration is developing contingency plans to ensure that health care funding is not disrupted. State-run systems for administering Federal benefit programs play a critical role in distributing a wide range of benefits, and a few States are receiving increased attention from Federal agencies.

The OMB also works with agencies to ensure that they have adequate financial resources to address the problem. In the fall of 1998 the Congress provided a $3.35 billion emergency fund to ensure that unanticipated Y2K funding needs are met and that no system will fail for lack of financial resources.

In February 1998 the President's Council on Year 2000 Conversion was created to coordinate the Federal Government's Y2K efforts. The council works with the OMB to ensure that agencies are making the most effective use of their financial and human resources to prepare their systems. The council is also concerned with reaching out beyond the Federal Government to promote action on the problem and to offer support to Y2K efforts in the private sector, by State, local, and tribal governments, and by international entities.

Some foreign countries have only recently gotten the message as well. Thus concern has shifted recently to the international dimension. Y2K problems can be transmitted not just from one company to another, but also from one country to another. Australia and Canada are classed with the United States among those countries relatively far along in their remedial efforts. But some European countries have been diverted by another large information processing task, namely, that of converting their information systems to deal with the new European currency, the euro, which came into existence in January 1999. In many countries, preparations are not as far along as they should be. The reassuring notion that developing countries are not yet as dependent on computers as are many industrial countries is

Box 2-2.—Preparing Federal Systems for the Year 2000

The Federal Government is a sufficiently large player in the economy that a failure of its own operations due to the Y2K problem would cause great inconvenience and hardship to many Americans, even if it did not impact the economy. The Federal Government operates some of the largest, most complex computer systems in the world, which provide services to millions of Americans. At the Social Security Administration (SSA) alone, information systems track annual earnings for more than 125 million workers, take 6 million applications for benefits each year, and make monthly benefit payments to 48 million Americans. The Federal Government also exchanges vast amount of information with the States, which administer key Federal programs such as the food stamp program, Medicaid, and welfare-to-work initiatives.

Preparing Federal systems for the year 2000 is an enormous challenge, and agencies have mounted aggressive efforts to ensure that their critical services will not be disrupted. SSA was the first agency to begin work on the Y2K problem, in late 1989. By 1995 several agencies had Y2K projects under way and were sharing information with each other about their efforts. In 1996 the Office of Management and Budget (OMB) formed an interagency committee, which it asked the SSA to chair, to coordinate the various Federal efforts. In 1996 the Chief Information Officers Council was assigned the responsibility of tracking and assessing the committee's work.

Since early 1997 the OMB has produced quarterly reports on agencies' progress in assessing, remediating, testing and implementing critical systems. The Administration has established a goal of having all critical systems compliant by March 1999. As of November 15, 1998, 61 percent were already compliant, up from 27 percent a year earlier. A small percentage of critical systems

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Box 2-2.—*continued*

are not expected to meet the March goal, and their agencies have been instructed to produce specific benchmarks showing how they will complete work on these systems before January 1, 2000, and to create contingency plans where necessary.

Federal payment systems are of particular concern to the public and the economy. Social Security and veterans' benefits systems are already compliant, and the Internal Revenue Service appears well on its way to being able to collect and process tax returns and issue refunds in a timely manner. For Medicare, which continues to face major system challenges, the Health Care Financing Administration is developing contingency plans to ensure that health care funding is not disrupted. State-run systems for administering Federal benefit programs play a critical role in distributing a wide range of benefits, and a few States are receiving increased attention from Federal agencies.

The OMB also works with agencies to ensure that they have adequate financial resources to address the problem. In the fall of 1998 the Congress provided a $3.35 billion emergency fund to ensure that unanticipated Y2K funding needs are met and that no system will fail for lack of financial resources.

In February 1998 the President's Council on Year 2000 Conversion was created to coordinate the Federal Government's Y2K efforts. The council works with the OMB to ensure that agencies are making the most effective use of their financial and human resources to prepare their systems. The council is also concerned with reaching out beyond the Federal Government to promote action on the problem and to offer support to Y2K efforts in the private sector, by State, local, and tribal governments, and by international entities.

Some foreign countries have only recently gotten the message as well. Thus concern has shifted recently to the international dimension. Y2K problems can be transmitted not just from one company to another, but also from one country to another. Australia and Canada are classed with the United States among those countries relatively far along in their remedial efforts. But some European countries have been diverted by another large information processing task, namely, that of converting their information systems to deal with the new European currency, the euro, which came into existence in January 1999. In many countries, preparations are not as far along as they should be. The reassuring notion that developing countries are not yet as dependent on computers as are many industrial countries is

outweighed by the fact that their equipment is likely to be older and therefore may contain more of the old two-digit coding.

Those companies and countries that only began to address the Y2K problem in 1998 now find themselves in a race against time. And any that have still not begun to deal with the problem will probably find their efforts have come too late. In such cases, business continuity planning to minimize probable disruptions is particularly necessary.

A few Wall Street forecasters have assigned high odds to the likelihood that the Y2K problem will lead to a serious global recession. Such forecasts seem excessively dire. Even if disruptions turn out to be more serious than most analysts expect, they will most likely show up primarily as inconveniences and losses in certain sectors. It is less likely that they would manifest themselves as the sort of economy-wide macroeconomic disturbances that can lead to a recession. In other words, aggregate economic statistics such as GDP and employment will probably not reflect Y2K effects to any noticeable extent. However, it would be unwise to state categorically that a Y2K recession is not in the cards. Computer technology is so pervasive in our lives that it is difficult to predict all the possible sources of danger.

Some effects on the demand side of the economy can reasonably be predicted—indeed, they are already upon us. First, the need to address the Y2K problem is already boosting demand for computer hardware and software, both to retrofit older machines and programs and to purchase new equipment that is Y2K-compliant. From a review of quarterly 10-K reports filed by Fortune 500 firms, the Federal Reserve Board has estimated that these large companies will spend a total of $50 billion on Y2K fixes. Indeed, this spending probably helps explain why real investment in computers and peripheral equipment in late 1998 was running more than 60 percent above its level a year earlier. Sometime later in 1999, it is likely that a tendency for firms to freeze their systems, so as not to be caught in midstream when January 1, 2000, arrives, will work to moderate Y2K spending. Thereafter a second burst of pent-up computer spending may occur, especially if new Y2K-related problems are revealed.

The Y2K problem is also increasing demand for the services of computer programmers. This effect should reverse after 2000, if all goes well, but it is likely to persist for some time after January 1. Not only may unanticipated glitches be discovered and need to be fixed, but companies are also likely to face a backlog of upgrade tasks that they had postponed in order to divert programming resources to Y2K issues. Economists at the Federal Reserve Board have pointed out that the increased demand for computer goods and services may not be showing up in GDP, to the extent that it takes the form of firms reallocating their own computer support services to work on the problem. To the contrary, they point to a negative effect on productivity resulting from the diversion of resources from what would otherwise be investment in

new productive capacity, and they estimate a loss to U.S. productivity due to such diversion of 0.1 to 0.2 percent per year in 1998 and 1999.

Uncertainty over the performance of information and delivery systems might lead firms to stockpile inventories in the runup to January 2000. Uncertainty has a positive effect on the demand for inventories at every stage of production, from raw materials such as oil and other mineral and agricultural products to retailers' inventories of consumer goods. The Y2K inventory effect should provide a clear boost to GDP in the fourth quarter of 1999, offset by a corresponding negative effect in early 2000. But this possibility implies no particular distortion of economic activity and calls for no particular policy response. Given the intrinsic uncertainty created by Y2K, it is rational and sensible, even optimal, for companies to take the precaution of adding a bit to inventories ahead of time. There is no reason to presume that this tendency to stockpile will be greater, or that it will be less, than what is appropriate.

Disturbances in the financial sector are also possible. The demand for cash balances, like the demand for inventories, is affected by uncertainty. Risk-averse people may withdraw more than the usual amount of money from automatic teller machines on the way to their New Year's Eve parties this year. As any macroeconomic textbook shows, an increase in the demand for cash without an increase in its supply can have a contractionary effect on the economy. Unlike the other factors, however, this one is easily accommodated. The Federal Reserve has already made arrangements to ensure that banks have the currency they need to satisfy a surge in demand. Thus, an increased demand for cash is one part of the macroeconomic equation that need not be a source of concern.

Effects on the supply side—notably in the infrastructure sectors mentioned above—are the source of the more alarming scenarios and are much harder to predict. It is here that the greatest risks lie. There is no way to evaluate, for example, whether the prospect of Y2K glitches in the financial sector will stoke irrational end-of-millennium unease to the point of provoking self-confirming volatility in securities markets. Banks have reported that Y2K compliance is already an important factor in their decisions to extend credit in certain foreign countries, particularly in Asia and Eastern Europe, where countries are thought to be among the least well prepared for the Y2K problem. A tightening of bank lending in these regions could accentuate the capital scarcity arising from the recent flight to quality.

There is no way of knowing the odds that the Y2K problem will lead to a recession. Even those who issue pessimistic forecasts admit freely that they are purely subjective judgments. This is not the sort of problem that lends itself to formal modeling; macroeconomic models simply are not built to address one-time scenarios such as a Y2K debacle. Moreover, if one knew enough about all the potential problems to

construct an accurate forecasting model, one would also know enough to go out and fix them. But as always, the unpredictable problems are the hardest to predict.

One can look to historical precedent—past disruptions of transportation or power systems due to strikes, weather events, or technological failures, for example—to see if anything can be learned about the macroeconomic spillover effects. Such an analysis is encouraging. Table 2-2 reports over 20 major disasters that occurred in the United States between 1971 and 1995, most of them weather-related, together with estimates of their monetary damages. The adverse impacts on buildings and property, even leaving aside the tremendous human toll, were often large: over 1 percent of GDP each in the cases of Hurricane Andrew in 1992 and the Northridge, California, earthquake in 1994. In economic terms these damages represent a loss in future consumption; resources must be diverted to replace or repair the capital stock that

TABLE 2-2.—*Disaster Damage: National Income and Product Accounts Estimates of Value of Structures and Equipment Destroyed*

Disaster	Area affected	Impact on NIPAs	
		Period	Value destroyed (billions of 1992 dollars at annual rates)[1]
Earthquake	California	1971: I	1.7
Hurricane Agnes	Middle Atlantic	1972: II	20.2
Flood	Mississippi	1973: II	6.3
Tornadoes	Alabama, Indiana, Kentucky, Ohio, Tennessee	1974: II	1.9
Flood, dam collapse	Idaho	1976: II	1.4
Windstorms, flood	Kentucky, Virginia, West Virginia	1977: II	2.8
Floods	Alabama, Mississippi, North Dakota	1979: II	3.0
Tornadoes	Arkansas, Texas	1979: II	
Hurricanes David and Frederick	Alabama, Mississippi	1979: III	4.6
Mudslides	California	1980: I	1.5
Riots	Miami (Florida)	1980: II	1.9
Mount St. Helens eruption	Oregon, Washington	1980: II	
Hurricane Iwa	Hawaii	1982: IV	4.7
Floods	Arkansas, Missouri	1982: IV	
Hurricane Alicia	Texas	1983: III	5.7
Hurricanes Elena and Gloria	Atlantic and Gulf Coasts	1985: III	4.3
Tropical Storm Juan	Gulf Coast	1985: IV	4.2
Hurricane Kate	Atlantic Coast	1985: IV	
Floods	Atlantic Coast	1985: IV	
Hurricane Hugo	North and South Carolina	1989: III	17.8
Earthquake	Loma Prieta (California)	1989: IV	15.8
Fire	Oakland (California)	1991: IV	6.1
Hurricane Andrew	Florida and Louisiana	1992: III	63.9
Hurricane Iniki	Hawaii	1992: III	7.9
Winter Storm	24 Eastern States	1993: I	7.9
Floods	9 Midwestern States	1993: III	8.2
Earthquake	Northridge (California)	1994: I	74.8
Hurricane Opal	Florida plus 9 Southern States	1995: IV	8.6

[1] Reflected as additions to consumption of fixed capital.

Source: Department of Commerce (Bureau of Economic Analysis).

has been lost or damaged. Yet in most cases the reduction in the capital stock had only a limited impact on current sales and production, so that the disruption did not show up in the national statistics on output, income, or employment for the year. The same is true of strikes, even those that affect the communications or transportation infrastructure. The 1997 strike against the Nation's leading private package delivery service, for example, in the end had little discernible impact on GDP, in part because firms and individuals found other ways to ship their packages. Americans are, after all, very adaptable. Also, output that is lost in one month is often made up the next.

To be sure, it could be dangerous to generalize from these precedents. A disruption that affected the entire country, or that lasted more than a few weeks, would offer less scope for substitution. But even when a failure of major power cables cut power to the central business district of New Zealand's largest city for 2 months last year, the estimated effect on the year's GDP growth was small in the end.

To summarize, even if Y2K disruptions turn out to be on the serious side, they will most likely show up primarily as inconveniences and losses in some sectors, and not in noticeable macroeconomic terms. A survey of 33 professional forecasters reported an average expectation that the Y2K problem and efforts to address it would add 0.1 percent to economic growth in 1999 and subtract 0.3 percent in 2000. Given typical yearly fluctuations in GDP, it would be hard to identify effects of this magnitude after the fact. The huge efforts now under way, both in the government and in the corporate sector, should make a truly serious disruption, let alone a recession, less likely. Again, however, it is important to avoid complacency. We should all redouble our preventive efforts, to keep from having to put the adaptability of the economy to the test.

NEAR-TERM OUTLOOK AND LONG-RUN FORECAST

THE ADMINISTRATION FORECAST

The Administration projects GDP growth over the long term at roughly 2.4 percent per year—a figure consistent with the experience so far during this business cycle as well as with reasonable growth rates of the economy's supply-side components. One method for estimating the economy's potential growth is an empirical regularity known as Okun's law, which can be illustrated by a scatter diagram (Chart 2-10). The diagram plots the four-quarter change in the unemployment rate against the four-quarter growth rate for real output. According to Okun's law, the unemployment rate falls when output grows faster than its potential rate, and rises when output growth falls short of that rate. The rate of GDP growth consistent with a stable unemployment rate is interpreted as the rate of potential growth and

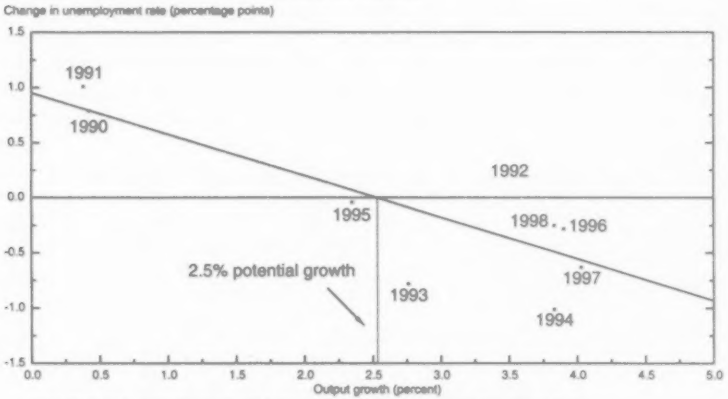
is estimated as the location where the fitted line in Chart 2-10 crosses the horizontal axis—in this case around 2.5 percent.

COMPONENTS OF LONG-TERM GROWTH

Labor Force

In the long term, the growth rate of the economy is determined primarily by the growth of its main supply-side components: population, labor force participation, the workweek, and labor productivity (Table 2-3). Of these, the most easily understood is the civilian working-

Chart 2-10 **Estimation of Potential GDP Growth by Okun's Law**
Real GDP growth in excess of its potential rate lowers the unemployment rate. Potential growth is estimated to be around 2.5 percent.



Note: Change in unemployment rate is the fourth-quarter to fourth-quarter change in the demographically adjusted unemployment rate. Output growth is the fourth-quarter to fourth-quarter percent change in the geometric mean of the income- and product-side measures of GDP. Pre-1995 growth rates have been adjusted for methodological changes. GDP growth in 1998 is estimated.
Sources: Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), and Council of Economic Advisers.

age population (the number of Americans aged 16 and over), which has grown at a 1.0 percent annual rate over the past 8 years. Official projections by the Bureau of the Census point to a growth rate of 1.0 percent per year through 2008 for this segment of the population.

The labor force participation rate—the percentage of the working-age population that is working or seeking work—was little changed in 1998, after notable increases in the 2 previous years. Although no readily apparent explanation emerges for the year-to-year pattern, the resurgence of strong GDP growth in 1996 (following a slower year), the expansion of the earned income tax credit, and the welfare reform law passed in the summer of 1996 probably all contributed to the increase in participation that year and in 1997. Welfare reform required States to move more of their public assistance caseload into work or work-related

activities. Most likely, the boost to participation from these efforts will be spread over the years between 1996 and 2002. Evidence for this effect is the rapid rise in the participation rate for women who maintain families. The increase in the participation rate for this group, which makes up only 6 percent of the labor force, accounts for half of the increase in the total participation rate over the past 3 years. These labor market issues are discussed further in Chapter 3.

On average, the total participation rate has been little changed since the last business-cycle peak. Looking ahead, the Administration expects the participation rate to increase by almost 0.2 percent per year during the phase-in period of welfare reform (that is, through 2002) and then to slow to 0.1 percent per year thereafter.

Productivity

The official measure of productivity in the nonfarm business sector has grown at about a 2 percent annual rate over the past 3 years, substantially faster than the 1.1 percent average annual growth rate between the business-cycle peaks of 1973 and 1990. To assess whether

TABLE 2-3.—*Accounting for Growth in Real GDP, 1960-2007*
[Average annual percent change]

Item	1960 II to 1973 IV	1973 IV to 1990 III	1990 III to 1998 III	1998 III to 2007 IV
1) Civilian noninstitutional population aged 16 and over	1.8	1.5	1.0	1.0
2) PLUS: Civilian labor force participation rate[1]	.2	.5	.0	.1
3) EQUALS: Civilian labor force[1]	2.0	2.0	1.0	1.1
4) PLUS: Civilian employment rate[1]	.0	-.1	.2	-.1
5) EQUALS: Civilian employment[1]	2.0	1.9	1.2	1.1
6) PLUS: Nonfarm business employment as a share of civilian employment[1,2]	.1	.1	.4	.1
7) EQUALS: Nonfarm business employment	2.1	2.0	1.6	1.2
8) PLUS: Average weekly hours (nonfarm business)	-.5	-.4	.0	.0
9) EQUALS: Hours of all persons (nonfarm business)	1.6	1.7	1.7	1.2
10) PLUS: Output per hour (productivity, nonfarm business)	2.9	1.1	1.4 [3](1.6)	1.3
11) EQUALS: Nonfarm business output	4.5	2.8	3.1 [3](3.3)	2.5
12) PLUS: Ratio of real GDP to nonfarm business output[4]	-.3	-.1	-.4 [3](-.5)	-.2
13) EQUALS: Real GDP	4.2	2.7	2.6 [3](2.8)	[5]2.3

[1] Adjusted for 1994 revision of the Current Population Survey.
[2] Line 6 translates the civilian employment growth rate into the nonfarm business employment growth rate.
[3] Income-side definition.
[4] Line 12 translates nonfarm business output back into output for all sectors (GDP), which includes the output of farms and general government.
[5] GDP growth is projected to fall below its underlying trend for this period (about 2.4 percent) as the employment rate is projected to fall 0.1 percent per year over this period.

Note. Detail may not add to totals because of rounding.
The periods 1960 II, 1973 IV, and 1990 III are business-cycle peaks.

Sources: Council of Economic Advisers, Department of Commerce (Bureau of Economic Analysis), and Department of Labor (Bureau of Labor Statistics), and National Bureau of Economic Research.

the recent surge in productivity represents an increase in long-term trend growth, several measurement issues must be addressed, as well as the cyclical behavior of productivity. One such issue concerns the decision to switch to geometric price indexes for some components of consumption. This decision, announced by the Bureau of Labor Statistics for the CPI starting in 1999, was first implemented by the Department of Commerce with last year's annual revisions to the national income and product accounts. (The Department of Commerce used the experimental CPI series that the Bureau of Labor Statistics began releasing in 1997.) The new methodology raised the measured annual growth rates of real nonfarm output and productivity by roughly 0.2 percentage point per year for 1995 and subsequent years. The change did not apply to earlier years, because last year's annual revision did not reach back that far. If the same methods were applied to earlier years, as they probably will be with the next benchmark revision, the average annual rate of productivity growth since 1973 might be 1.3 percent rather than the 1.1 percent officially reported.

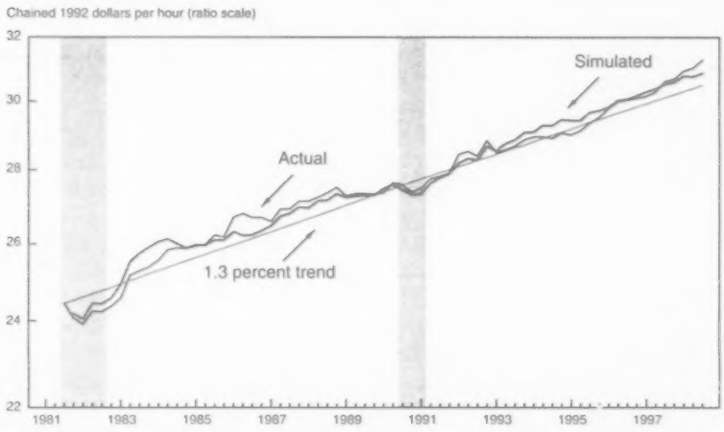
A second measurement issue concerns whether real output is best measured on the product side (the official method) or on the income side of the national accounts, or by a mixture of the two. Since 1993, the average annual growth rates of the income-side measures of output and productivity have been 0.5 percentage point higher than the official product-side measures. Because both sides of the accounts contain useful information, the Administration's (unofficial) estimate includes the information from both these series by averaging them—as has been done in Chart 2-11.

Other, more fundamental measurement issues exist as well. Box 2-3 discusses attempts to include environmental benefits in measures of national income, as would be required for a truly comprehensive measure of economic welfare.

In the long term, productivity increases with training, technological innovation, and capital accumulation. But productivity growth also shows considerable variation over the business cycle, typically falling below its trend during recessions, then growing faster than trend during the middle of an expansion, and finally falling again in advance of the business-cycle peak, as it did between the peaks of 1980 and 1990. This cyclical behavior can be captured by a model in which firms only partially adjust toward their desired level of employment in any quarter, because hiring and firing are costly. As shown in Chart 2-11, a simulation from this model shows that the above-trend growth of productivity in recent years is consistent with strong output growth and an underlying trend rate of 1.3 percent.

The most straightforward conclusion is that the trend growth of labor productivity has not changed much during the post-1973 period and that recent productivity growth reflects primarily cyclical factors. Since 1994, on the other hand, labor productivity has grown faster

Chart 2-11 **Actual Versus Simulated Productivity Growth**
The recent behavior of productivity is consistent with strong output growth and a 1.3 percent trend.



Note: Productivity has been adjusted for methodological changes and is defined as the average of the income- and product-side measures.
Sources: Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor of Statistics), National Bureau of Economic Research, and Council of Economic Advisers.

than under the simulation, and it remains possible that the growth rate of trend labor productivity has risen recently. Weighing these possibilities, the Administration has projected long-term annual growth of labor productivity at 1.3 percent, but will closely monitor productivity data over the next year for further evidence of a stronger growth rate.

Box 2-3.—Accounting for the Environment

Economists have long realized that GDP is a measure of market output, not of national welfare. By design, changes in GDP primarily reflect the value of goods and services as measured in the marketplace, excluding changes in leisure time, health status, environmental quality, and other aspects of well-being. Recently, concerns over sustainable development have sparked interest in expanding the system of national income accounts to include measures of environmental quality and the stock of natural resources. Some people worry that economic development may entail a deterioration of environmental quality and a depletion of natural resources, causing national well-being to fall even as measured GDP rises. Proposals for a "green GDP" attempt to address this desire for a more comprehensive scorecard on well-being and environmental sustainability.

Incorporating environmental and natural resource assets into a unified system of national income accounts is exceedingly difficult,

Box 2-3.—*continued*

however. Important aspects of environmental quality must first be measured in physical units, which then must somehow be translated into a common economic measure (dollars). There is little agreement about how to value many aspects of environmental quality, or even on methods for establishing such values. For example, setting a dollar value on the health and aesthetic benefits of lowering air pollution raises a host of difficult philosophical and technical issues.

These problems have led most countries to abandon the quest to incorporate the environment formally into GDP. An alternative favored by Eurostat, the statistical office of the European Union, is to report only physical measures of different aspects of environmental quality. This approach makes no attempt to aggregate these various estimates into a common unit of measure, and no attempt to estimate green GDP. Rather, separate accounts track various measures of environmental quality individually.

An intermediate approach, used by the United Nations System of Environmental and Economic Accounting and in prototype accounts developed by the United States, is a system of satellite accounts to account for certain important aspects of environmental quality. These accounts, although developed to be consistent with the system of national income accounts, are not restricted to the same definitions and methods. This flexibility allows them to focus on issues of particular interest and to be tailored to available information. As information and methods of valuation improve, the system of satellite accounts would move closer to a unified set of economic and environmental accounts.

The satellite accounts approach allows the system of national income accounts to address two fundamentally different needs. There will always be a need for a frequently updated measure of market-based goods and services for both government and the private sector, which GDP fulfills. A broader measure of well-being is also needed, even though it is likely to be less precise and available less frequently, and this the satellite accounts can provide. Fortunately there is no need to choose between them.

INFLATION: FLAT OR FALLING?

The key to the longevity of this expansion has been low inflation. Direct measures of the strain on productive capacity, such as the unemployment rate and the capacity utilization rate, play a role in determining whether the economy has reached the limits of its capacity.

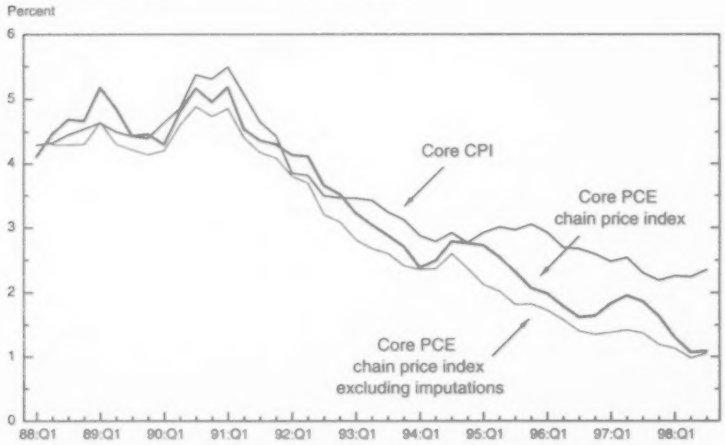
But in the last analysis, it is the direction of inflation that signals whether or not the capacity limit has been breached. Over the past 2 years, low and stable inflation has allowed decisionmakers, both in business and in government, to focus primarily on growth rather than on bottlenecks.

In addition to its importance for policy decisions, the level and direction of inflation are important variables in long-term economic and budget projections. In this context it is important to note the gap that has developed between inflation as measured by the CPI and the measures of inflation included in the national income accounts. The broadest measure of inflation for goods and services produced in the United States is the chain-weighted price index for GDP, which increased only 1.0 percent over the four quarters ending in the third quarter of 1998, almost a percentage point below its year-earlier pace. In contrast, the CPI posted a larger increase—and less of a deceleration—over the past year, despite a much larger weight for petroleum prices, which fell during the year. The difference becomes striking when one focuses on the contrast between two price measures that appear to have the same coverage: the price index from the national income accounts for personal consumption expenditures excluding food and energy (the core PCE), and the CPI excluding food and energy (the core CPI). As Chart 2-12 shows, the core CPI inflation rate has been roughly flat for the past year at about 2.4 percent, whereas that of the core PCE has slowed to 1.1 percent for the four quarters ending in the third quarter of 1998, from a 1.9 percent increase during the year-earlier period. Furthermore, the difference that has opened up between these two series has no historical precedent. What could cause such a divergence?

More than half of the deceleration in the core PCE over the past year is accounted for by price imputations. National income accountants impute prices for components of the consumer market basket for which there is no nationally collected price measure. These items include lotteries, insurance, and financial intermediation. One of these imputed prices (that for "free" checking accounts) slowed sharply over the past year. Because these imputations tell us little about the course of inflation, it is more useful to focus on an index that excludes imputations (Chart 2-12).

Excluding imputations, the index for the core PCE still shows lower inflation than does the core CPI, and a gap between the series has opened up over the past few years. The major sources of the difference are in the treatment of medical care and housing. The price index for medical care in the PCE, which was formerly an aggregation of mostly CPI components, has now shifted toward an aggregation of components from the producer price index. Over the four quarters ending in the third quarter of 1998, medical prices in the PCE index have increased much less (2.2 percent) than the CPI measure of the same

Chart 2-12 **Three Measures of Core Inflation**
Inflation as measured by the core CPI was flat in 1998. In contrast, the core PCE measure fell, although less so excluding imputations.



Note: Inflation is measured as the four-quarter percent change in the three measures.
Sources: Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), and Council of Economic Advisers.

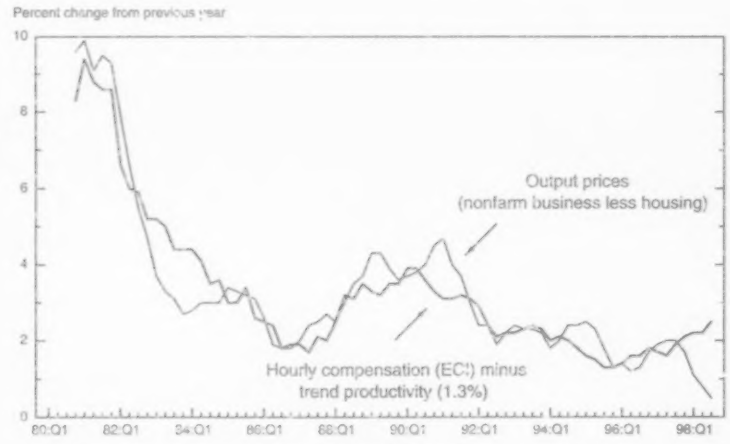
concept (3.5 percent). Although the increase in housing prices is similar in both indexes (because the PCE housing index uses CPI sources), housing is twice as important in the CPI as in the PCE price index. This difference in weight, together with an increase in the price of housing relative to the overall index, means that housing has also been a source of the difference between the CPI and PCE inflation measures. At this time, with no compelling reason to prefer one index to the other, it is best to keep an eye on both.

In addition to the price index of the core PCE, other price indexes from the national income accounts are increasing at or below an annual rate of 1 percent per year. One of these, the price index for nonfarm business output (which is aggregated from consumption prices as well as prices of other spending components) increased at only a 0.5 percent annual rate in the past four quarters. Can this low rate persist?

Whatever the rate of inflation today, in the long run the inflation of business prices will likely gravitate toward the rate of increase in trend unit labor costs—that is, the increase in hourly compensation less the rate of trend productivity growth. Until recently, one measure of trend unit labor costs (namely, the ECI measure of hourly compensation, described earlier in the chapter, less the trend in productivity) has closely matched the rate of price increases in the nonfarm business sector (Chart 2-13). However, a large gap has opened up recently, with the ECI-based measure of trend unit labor costs increasing at a rate of 2.5 percent over the past four quarters (a 3.8 percent increase in

hourly compensation less 1.3 percent trend productivity growth), in contrast with an increase of 0.5 percent in prices in the nonfarm business sector. The historical pattern suggests that this gap will close, and it could do so through either higher price inflation, lower wage inflation, or higher trend productivity growth. The eventual outcome may involve some combination of all three, but the inertia in wages and trend productivity growth suggests that most of the correction will come from a higher rate of inflation of nonfarm business prices, at least as measured in the national income accounts. If this price measure gravitates upward, it will close not only the gap between prices and trend unit labor costs, but also the gap between the price measures from the national income accounts and the CPI. Accordingly, the Administration projects that inflation as measured by the GDP price index will rise to 2.1 percent by 2000. At the same time, the CPI is projected to rise at a 2.3 percent annual rate—about the current rate of increase of the core CPI.

Chart 2-13 **Inflation and Trend Unit Labor Costs**
Output price inflation has followed trend unit labor costs until recently.



Note: Output prices have been adjusted for methodological changes.
Sources: Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics),and Council of Economic Advisers.

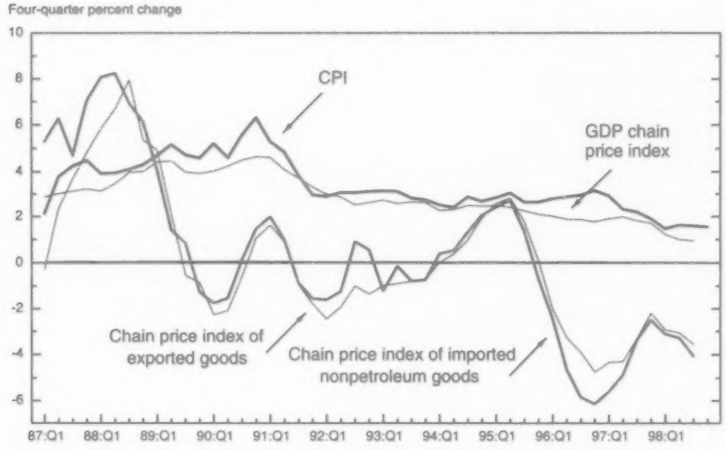
WHAT HAS HELD INFLATION IN CHECK?

Inflation has been steady or falling despite an unemployment rate that has been below 5 percent since July 1997. A model of inflation that included only the unemployment rate and inflation expectations would have predicted a pickup of inflation during this period. Three factors that have held measured inflation down over this period have been pressure from the international environment (including low oil prices),

a level of capacity utilization that is low relative to the unemployment rate, and certain methodological changes in the official measure of inflation. But even taking these factors into account, the unemployment rate associated with stable inflation (the nonaccelerating-inflation rate of unemployment, or NAIRU) has probably edged lower.

Conditions in the international environment have restrained inflation. The foreign exchange value of the dollar has risen substantially over most of the past 3 years, both oil and nonoil import prices have been falling, and exporters of U.S. goods face stiff competition. On the import side, prices of nonpetroleum goods have fallen at about a 4 percent annual rate, on average, during the past 3 years (Chart 2-14).

Chart 2-14 **Export and Import Prices Versus the CPI and GDP Price Index**
Export and import price declines have held down inflation.



Sources: Department of Commerce (Bureau of Economic Analysis) and Department of Labor (Bureau of Labor Statistics).

With the share of nonpetroleum imports at about 15 percent of consumption, these imports account for about 0.6 percentage point of the reduction in consumer price inflation. Meanwhile exporters of U.S. goods have cut prices by about 3½ percent per year over the past 3 years, presumably to match stiff competition abroad. With goods exports at about 8 percent of GDP, export prices have subtracted about 0.3 percentage point from the inflation rate as measured by the GDP price index. In recent months the dollar has retraced some of its appreciation of the 1995-98 period, and so the damping effect on inflation may not be as forceful over the medium term.

Capacity in manufacturing, mining, and utilities has grown at a 5¼ percent annual rate over the past 3 years, outpacing growth in

production at 4¼ percent. Consequently, the capacity utilization rate has dropped to a level that is now 1 index point below its long-term average of 82.1 percent of capacity. This slack in capacity is the legacy of a sustained high level of industrial investment and stands in sharp contrast to the tightness in labor markets. Over most of the postwar era, slack in capacity has moved with the unemployment rate, and so these two measures usually tell much the same story. However, in current circumstances the excess industrial capacity offsets some of the tightness in labor markets.

A final reason for the slowing of reported price indexes has been methodological changes to both the CPI and the indexes used in the national income accounts (Box 2-4). In general, these changes have reduced the measured rate of inflation. For the CPI, methodological changes made from 1995 through 1998 reduced the rate of CPI inflation by about 0.44 percentage point. Changes to be introduced in 1999 and 2000 will reduce it by an additional 0.24 percentage point.

Box 2-4.—Methodological Changes to Price Measurement

The Bureau of Labor Statistics (BLS) and the Bureau of Economic Analysis (BEA) have recently made several methodological changes that have improved the accuracy of the consumer price index and the price indexes in the national income accounts. One of these changes goes into effect this year (Table 2-4). Most of the improvements made by the BLS have reduced the measured increase in the CPI, and many will also affect the deflation of nominal output and therefore raise the growth rate of measured real GDP. Changes made through 1998 include the substitution of generic drugs when patents expire on proprietary brands; the correction of a problem in rotating new stores into the survey through a procedure called "seasoning" (a problem that was corrected first in the food category and later in other categories of goods); a modification of the formula for measuring increases in rent; a change to measuring prices on hospital bills rather than the prices of hospital inputs; a switch to measuring computer prices by the computers' intrinsic characteristics ("hedonics"); and an update of the market basket from one based on the 1982-84 period to one based on 1993-95. A change scheduled for this year is the use of geometric rather than arithmetic means to address substitution bias within categories; next year the BLS will bring in the results of more frequent rotation of the items sampled in categories with many new product introductions.

The combined effect of the changes made through 1998 has been to lower the CPI inflation rate by 0.44 percentage point per year.

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Box 2-4.—*continued*

Changes to be implemented in 1999 and 2000 will lower CPI inflation by a further 0.20 and 0.04 percentage point per year. The BEA brought the geometric CPI components into the national income accounts during the annual revision of July 1998. In this revision the books were open only for the 3 previous years, and so the effect of the geometric CPIs now begins in 1995. In the benchmark revision scheduled for October 1999, this effect will be taken back farther into the historical record. The BEA has also recently switched from using the CPI to using the producer price index (PPI) to deflate physicians' services and the services of government and for-profit hospitals. These changes, made in the July 1997 annual revision of the national income accounts, reached back to 1994. Because the PPI measures of these prices have been increasing less than the comparable CPIs, the changes reduce the rate of increase of the chain-weighted price index for GDP and raise real GDP growth. These changes, in addition to those passed through from the CPI, will have cumulated to raise the annual growth rate of real GDP by 0.29 percentage point by 2000.

TABLE 2-4.— *Expected Effects of Methodological Changes on the CPI and Real GDP*

Change	Year effect is felt		Percentage-point effect on	
	In the CPI	In the NIPAs	CPI percent change	GDP percent change
PPIs for hospitals and physicians	[1]	1993, 1994	[1]	.06
Generic prescription drugs	1995	1995	-.01	.00
Food at home seasoning	1995	1978	-.04	.03
Owners equivalent rent formula	1995	1978	-.10	.03
Rent composite estimator	1995	1978	.03	-.01
General seasoning	1996	[1]	-.10	[1]
Hospital services index	1997	[1]	-.01	[1]
Personal computer hedonics	1998	[2]	-.04	.00
Updated market basket	1998	[1]	-.17	[1]
Geometric means	1999	1995	-.20	.15
Rotation by item	2000	2000	-.04	.03
Pre-1999			-.44	.26
1999 and after			-.24	.03
TOTAL			-.68	.29

[1] Not relevant for this index.
[2] The entire NIPA series back to 1948 reflects this methodology change, so that there is no discontinuity in the series.

Sources: Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), and Council of Economic Advisers.

A proper accounting for these changes can explain in part the recent low inflation in terms of the CPI (although not that in terms of the GDP price index). The rest can be explained by some combination of low nonoil import prices, low oil prices, and a downtick in the NAIRU. But it is as yet impossible to know exactly which combination of these factors is the right one.

THE NEAR-TERM OUTLOOK

Both supply- and demand-side considerations argue for some moderation in real GDP growth from its rapid 3.7 percent annual pace of the past 3 years. On the supply side, the unemployment rate has fallen by about 0.4 percentage point per year over the past 3 years, and it is questionable whether a further decline of this magnitude could be accommodated without inflationary consequences. Labor force growth has not kept up with demand for labor in the past 2 years, nor can it be expected to keep up with a repetition of that kind of demand growth.

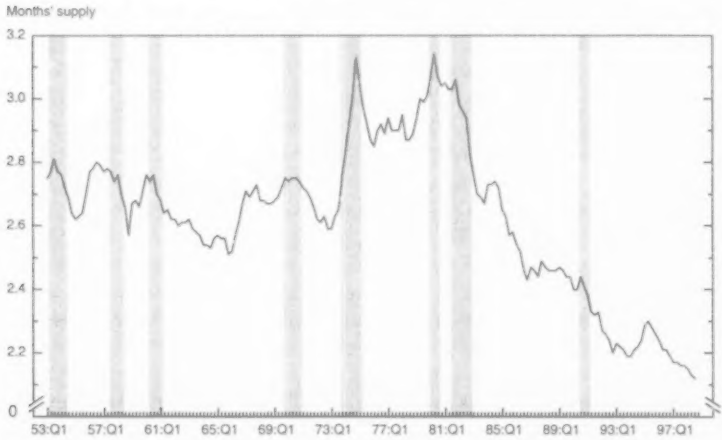
On the demand side, private consumption and fixed investment are expected to grow less rapidly in 1999 than they did in 1998. Consumption, which constitutes two-thirds of demand, rose at more than a 5 percent annual rate during the first three quarters of 1998. Growth of consumer spending, which was well in excess of the growth rate of disposable personal income, reflected the remarkable growth of stock market values. As a consequence, the saving rate fell almost 2 percentage points over the year, finally dropping to near zero by year's end. Unless the stock market continues to surge, consumption is likely to grow at a more moderate pace. Continued real income growth is likely to motivate further, but smaller, consumption gains.

Business equipment investment grew at an extraordinary 26 percent annual rate in the first half of the year, the fifth consecutive year of double-digit growth. Business purchases of computers accounted for much of this growth; the rapid pace of innovation in the computer industry is driving new investment, and prices have been falling sharply. But equipment investment decelerated sharply in the third quarter of 1998. Investment in business structures has been about flat over the past year and a half. Low capacity utilization may be one factor limiting investment growth. However, as long as the relative price of equipment is falling, it is likely that business investment will continue to grow faster than the economy as a whole.

Strong real income growth, together with the drop in mortgage interest rates over the past year, is also buoying residential investment. The 1.62-million-unit pace of housing starts in 1998 was the highest in a decade. Even if mortgage rates remain around their current low levels, housing activity and residential investment are likely to edge down because of demographic factors and the lack of pent-up demand after several years of strong growth.

Nonfarm manufacturing and trade inventories also grew rapidly in 1998, but no faster than sales. The (nominal) inventory-to-sales ratio was thus little changed over the year and remains at one of its lowest levels ever (Chart 2-15). Nevertheless, if the components of final demand were to decelerate to a more modest rate in 1999, the level of

Chart 2-15 **Inventory-to-Sales Ratio (Nonfarm Business)**
Despite recent strong stockbuilding, inventories remain lean with respect to sales.



Note: Based on data in current prices.
Sources: Department of Commerce (Bureau of Economic Analysis) and National Bureau of Economic Research.

inventory investment would have to drop in order for this lean inventory posture to be maintained.

Some restraint is likely to come from the international economy, as the rise in the dollar over the past 3 years and the continued restructuring of several Asian economies have already weakened—and will continue to weaken—demand for American-made products. Because the direction of trade responds with a lag to changes in the exchange rate, the appreciation of the dollar over the past 2 years is likely to boost demand for imports and limit growth of exports in 1999. As a result, net exports are likely to become more negative in 1999, although they probably will not decline as much as in 1998.

Up to now, the Asian economic crisis has not had the negative effect on the U.S. economy that was anticipated a year ago. The consequences of a larger-than-expected drop in import prices have offset much of the direct loss of exports. On the one hand, American exports to the Asian economies most affected by the crisis have fallen about $30 billion (in nominal dollars) since the second quarter of 1997. On the other hand, the weakness abroad has been a major factor in

lowering the price of imported crude oil, which has fallen almost $8 per barrel from precrisis levels. Because the United States purchases about 3½ billion barrels of foreign petroleum and petroleum products per year, the resulting $27 billion saving on the national oil import bill offsets almost all of the loss in exports to Asia. In addition, the drop in nonpetroleum import prices and the price discipline imposed on exporters who compete in international markets have held down inflation by about half a percentage point, as discussed earlier. Low inflation has in turn allowed interest rates to be lower, and domestic demand higher, than they would otherwise be.

A moderation in output growth to 2.0 percent is projected for the next 3 years—about half a percentage point below the economy's long-term growth rate, but roughly in line with the consensus of professional economic forecasters (Table 2-5). Over these 3 years the unemployment

TABLE 2-5.—*Administration Forecast*

Item	Actual		1999	2000	2001	2002	2003	2004	2005
	1997	1998							
	Percent change, fourth quarter to fourth quarter								
Nominal GDP	5.6	[1]4.5	4.0	4.2	4.1	4.5	4.5	4.5	4.6
Real GDP (chain-type)	3.8	[1]3.5	2.0	2.0	2.0	2.4	2.4	2.4	2.4
GDP price index (chain-type)	1.7	[1].9	1.9	2.1	2.1	2.1	2.1	2.1	2.1
Consumer price index (CPI-U)	1.9	1.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	Calendar year average								
Unemployment rate (percent)	4.9	4.5	4.8	5.0	5.3	5.3	5.3	5.3	5.3
Interest rate, 3-month Treasury bills (percent)	5.1	4.8	4.2	4.3	4.3	4.4	4.4	4.4	4.4
Interest rate, 10-year Treasury notes (percent)	6.4	5.3	4.9	5.0	5.2	5.3	5.4	5.4	5.4
Nonfarm payroll employment (millions)	122.7	[2]125.8	127.7	129.2	130.5	132.1	134.0	136.0	137.9

[1] Forecast.
[2] Preliminary.

Sources: Council of Economic Advisers, Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), Department of the Treasury, and Office of Management and Budget.

rate is projected to edge up slowly to 5.3 percent—the middle of the range of unemployment compatible with stable inflation. Thereafter, the Administration's forecast is built around a growth rate of potential output of 2.4 percent per year. The Administration does not believe that 2.4 percent annual growth is the best the economy can do; rather, this projection reflects a conservative estimate of the effects of Administration policies to promote education and investment and to balance the budget. The outcome could be even better—as indeed it

has been for the past 3 years. But the Administration's forecast is used for a very important purpose: to project Federal revenues and outlays so that the government can live within its means. For this purpose, excessive optimism is dangerous and can stand in the way of making difficult but necessary budget decisions. On the other hand, excessive pessimism can force difficult decisions where none was required. In the final analysis, the only worthy objective is the creation of a sound forecast that points to the eventual outcome using all available information as fully as possible.

As of December 1998, the current economic expansion, having lasted 93 months, was the longest ever during peacetime and the second longest on record. There is no apparent reason why this expansion cannot continue. As the 1996 *Economic Report of the President* argued, expansions do not die of old age. Instead, postwar expansions have ended because of rising inflation, financial imbalances, or inventory overhangs. None of these conditions exist at present. The most likely prognosis is therefore the same as last year's: sustained job creation and continued noninflationary growth.

CHAPTER 3

Benefits of a Strong Labor Market

THE NATION'S LABOR MARKET is performing at record levels: the number of workers employed is at an all-time high, the unemployment rate is at a 30-year low, and real (inflation-adjusted) wages are increasing after years of stagnation. Groups whose economic status has not improved in the past decades are now experiencing progress. The real wages of blacks and Hispanics have risen rapidly in the past 2 to 3 years, and their unemployment rates are at long-time lows; employment among male high school dropouts, single women with children, and immigrants, as well as among blacks and Hispanics, has increased; and the gap in earnings between immigrant and native workers is narrowing.

The most recent data also show that the employment relationship is strong. Job displacement—job losses due to layoffs, plant closures, and the like—has declined substantially since the 1993-95 period, and among those who have been displaced, the share that have found new work has increased. These reemployed workers still typically earn less on the new job than at the job they lost, but these wage losses are at record lows. Moreover, the popular assertion that secure lifetime jobs are disappearing appears to be overstated. This is not to suggest that the picture is entirely benign: some groups have experienced declines in job tenure since the 1980s, and the rate of job displacement remains relatively high given the current strength of the labor market. To address these and other problems, this Administration has undertaken a number of measures to strengthen education and job training and to promote lifelong learning.

Besides spreading the benefits of economic growth more widely, the robust labor market has generated other, less obvious benefits. It has contributed to a decrease in welfare case loads, allowing States and localities to focus increased resources on designing and implementing welfare reform. In addition, low unemployment and, especially, the rise in average wages may have contributed to a reduction in crime. Several studies have demonstrated an inverse relationship between labor market opportunities and criminal behavior: the better the options in legal employment, the less likely are potential criminals to commit crimes.

The chapter begins by documenting economy-wide developments in the labor market in the past few years within the context of longer run changes. It then focuses on recent improvements experienced by workers

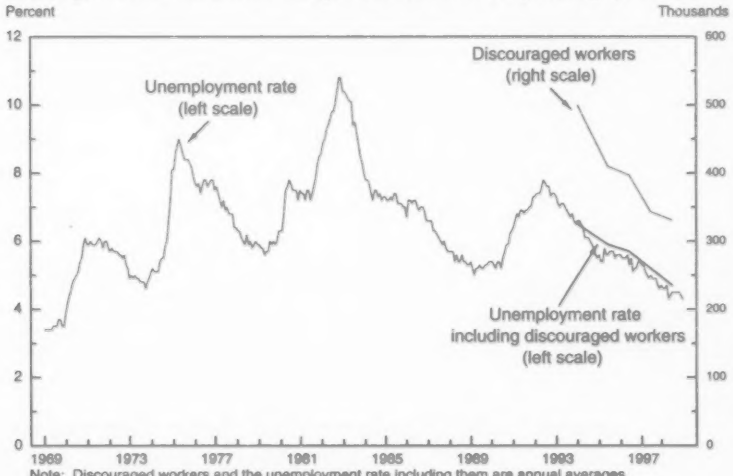
who have traditionally not fared as well in the labor market, including high school dropouts, blacks, Hispanics, youth, immigrants, and single mothers. The chapter then goes on to examine some important but less obvious side benefits of the tight labor market. This is followed by a discussion of evidence on changes in the relationship between workers and employers, including job displacement, job tenure, and the contingent work force. Finally, the chapter reviews recent policy developments to promote job training and lifelong learning.

ECONOMY-WIDE DEVELOPMENTS IN THE LABOR MARKET

EMPLOYMENT

The usual indicators of labor market progress—employment, unemployment, and wages—show that working men and women continue to benefit from the ongoing economic expansion. Employment is at an all-time high, with 133 million Americans at work in December 1998, and only 4.3 percent of the labor force unemployed. Having fallen from 7.3 percent in January 1993, the unemployment rate is at its lowest level since February 1970 (Chart 3-1).

Chart 3-1 **Unemployment and Discouraged Workers**
The unemployment rate is at its lowest level since February 1970. Including discouraged workers increases the rate by at most four-tenths of a percentage point.



Note: Discouraged workers and the unemployment rate including them are annual averages.
Source: Department of Labor (Bureau of Labor Statistics).

Data on discouraged workers provide further evidence of a strong labor market. The number of discouraged workers—workers who are not employed and who have not looked for work in the past 4 weeks

because they did not think they could find a job—has shrunk by one-third since 1994, the earliest year for which comparable data are available. Discouraged workers are not counted in the labor force and therefore are not captured in the official unemployment rate. However, because there are so few discouraged workers, redefining the unemployment rate to include them as unemployed increases the unemployment rate by no more than 0.4 percentage point (see Chart 3-1).

Much of the growth in employment reflects an increase in the share of women looking for and finding jobs. More women than ever before have joined the labor force: among women aged 25-64, 72.4 percent were working or seeking work in 1998, up from 70.2 percent in 1993 and 33.1 percent in 1948. The labor force participation rate among men aged 25-64 gradually declined during the 1960s and early 1970s, but it has remained steady at about 88 percent ever since.

A tight labor market in a high-employment economy means that more men and women who are looking for jobs are finding them, and finding them faster. Those unemployed in 1998 had been searching for work an average of 14.5 weeks, down from 18.8 weeks in 1994, the earliest year with comparable data. The average length of a spell of unemployment is sensitive to the number of those undergoing long spells. In 1998, 14.1 percent of the unemployed had been searching for a job for over 27 weeks, far below the 1994 figure of 20.3 percent. By contrast, the share of those unemployed for less than 15 weeks rose from 64.2 percent to 73.6 percent during the same period.

WAGES

One of the best documented labor market trends of the past few decades has been the decline in real wages among men. According to the Current Population Survey (CPS; see Box 3-1 for a description of

Box 3-1.—Sources of Wage Data

This chapter uses several different sources of data on wages. The Bureau of Labor Statistics (BLS) of the Department of Labor publishes estimates derived from monthly surveys of both households and establishments: the CPS, which surveys about 50,000 households, and payroll records reported by about 390,000 establishments representing the nonfarm sector. Earnings data tabulated by the BLS from the household data usually describe the median weekly earnings of full-time workers aged 16 and over. However, because significant portions of the populations of interest in much of this chapter often do not work full time, in many cases the Council of Economic Advisers has made special tabulations of wages including *all* workers aged 16 and over—part-time

Box 3-1.—*continued*

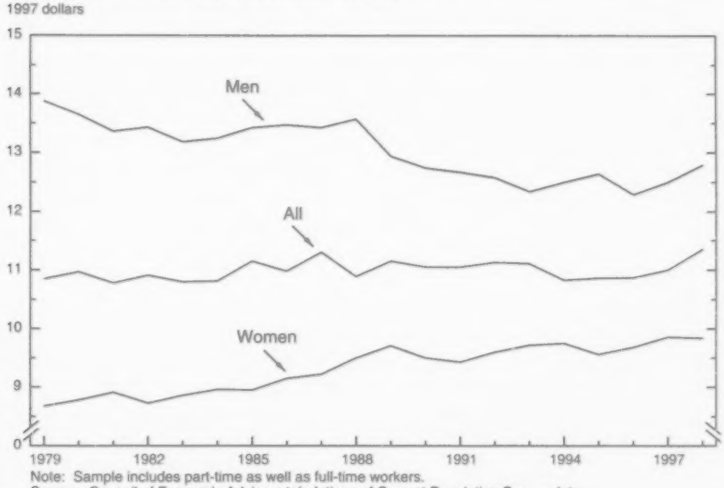
as well as full-time—in the CPS data. Unless otherwise specified, this is the population referred to in this chapter.

All of the Council's tabulations use the merged Outgoing Rotation Group (ORG) files of the CPS, which include a subset (25 percent) of the full CPS sample who are asked about their earnings and hours on their current job each month. In the ORG data, hourly wages are measured by dividing usual weekly earnings by usual weekly hours, both as measured on the individual's main job. All wage data are presented in real 1997 dollars, adjusted for inflation using the CPI-U-X1 (the urban consumer price index with rental equivalence).

This chapter also uses BLS establishment data, collected from businesses and State and local governments. From these data are derived estimates of average weekly earnings and hours worked for production and nonsupervisory workers. In addition, the employment cost index (ECI), also constructed from establishment data, measures total compensation paid to workers, including both wages and salaries and the cost of benefits such as health plans. Fixed industry weights are used to ensure that the ECI reflects *only* changes in compensation, not shifts in employment across industries and occupations. The CPS wage data and average weekly earnings of production and nonsupervisory workers do reflect these shifts, as well as wage trends within industries and occupations.

the data), between 1979 and 1993 the median real wage for men fell by 11.1 percent (Chart 3-2). However, progress has been made since 1996: the median real wage for men rose 1.7 percent in 1997 and 2.3 percent in 1998. Women experienced slightly stronger real wage growth in 1997 of 1.9 percent, but their wages were flat in 1998. Other measures of compensation show similar increases. Data reported by establishments (businesses and government agencies; the CPS data cited above are from surveys of households) show that, after stabilizing in the early 1990s, real hourly earnings of production and nonsupervisory workers have risen by 5.4 percent since 1993. The employment cost index (see Box 3-1) shows that total compensation (wages and salaries plus benefits) per worker increased by 2.2 percent in real terms from the third quarter of 1997 to the third quarter of 1998. Employers' wage and salary costs in that period rose by 2.7 percent and benefit costs (health insurance, paid leave, supplemental pay, retirement benefits, and the like) by 1.2 percent. Establishment data also show that the average workweek for production and nonsupervisory workers continued to hover between 34.4 and 34.8 hours, as it has since the mid-1980s.

Chart 3-2 **Median Hourly Wages of Men and Women Aged 16 and Over**
Men's wages generally declined between 1979 and 1993, but have risen in more recent years. Women's wages have risen steadily.



Note: Sample includes part-time as well as full-time workers.
Source: Council of Economic Advisers tabulations of Current Population Survey data.

DISADVANTAGED GROUPS

A strong labor market is particularly important to less advantaged groups in the labor market, such as workers with less education, younger workers, racial and ethnic minorities, and immigrants. The unemployment rates of these groups typically swing up and down more than the average during expansions and recessions. When employers find it hard to fill vacancies, they are more willing to hire and train workers whom they might pass over when they have fewer openings and an abundance of applicants.

For the same reason, a tight labor market can also pull up wages for disadvantaged workers. When labor is scarce, these workers can command better pay than at other times. The current expansion is especially important for disadvantaged workers given their experience from the late 1970s to the early 1990s, when wage inequality grew and less skilled groups faced persistently declining wages, on average.

The reasons for these wage declines and the rise in inequality that accompanied them were discussed in the 1997 *Economic Report of the President* and are still being debated, but it seems clear that demand for highly skilled workers has been expanding faster than supply, whereas demand for less skilled workers has declined even faster than supply. Even though the fraction of the population without a high school diploma has shrunk, as older, less educated cohorts have retired

and been replaced by younger, more educated ones, the number of jobs available to high school dropouts shrank even faster from the late 1970s to the early 1990s. An important explanation is technological change in manufacturing, as a result of which the manufacturing sector requires fewer workers to produce more output than in the past. Competition from lower wage, low-skilled labor in other countries may also have been a factor, although most studies find that technological change is more important than increased international trade in explaining the declining demand in the United States for workers with no more than a high school diploma. Meanwhile, employment has expanded dramatically in the financial, professional, and business services industries, where most jobs require a college education or beyond.

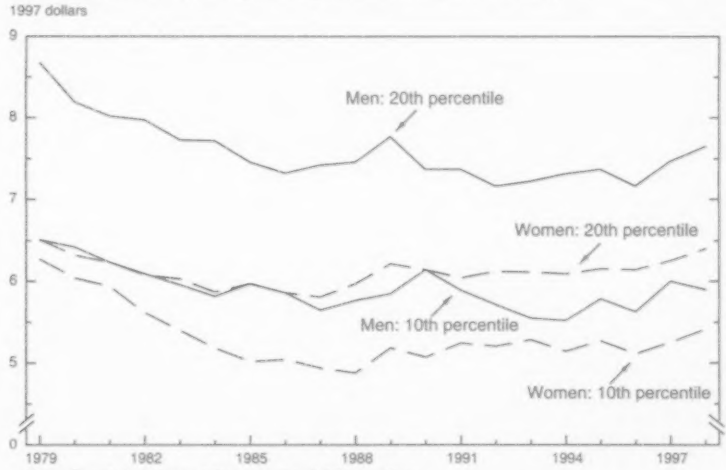
Unions have historically helped less educated workers obtain higher wages than they could get otherwise. As employment in the highly unionized goods-producing, transport, and utilities industries has declined as a share of the work force since the 1950s, however, so has union membership. Like the American economy in general, the labor market has become more competitive in recent decades, with compensation and job security more often determined by market forces than before. This has benefited many American workers who were in a position to take advantage of the new job opportunities, but it has been hard on less skilled workers at the lower end of the wage distribution.

The Administration's efforts to keep the economy expanding and to make work pay have been particularly important to these workers. Not only is the overall labor market performing at record levels, but several groups of workers who had been experiencing low employment rates, declining wages, and high rates of unemployment have begun to show marked improvements. These groups include low-wage workers, workers with less than a college education, blacks and Hispanics, immigrants, and single mothers.

LOW-WAGE WORKERS

It is well established that workers at the lower end of the wage distribution have not fared well in recent decades: from the late 1970s through the early 1990s, the purchasing power of their wages declined. Between 1979 and 1993 the real hourly wages of male and female workers (including part-timers) at the 10th percentile of the wage distribution fell by 14.8 percent and 15.8 percent, respectively (Chart 3-3). More recently, however, these lowest paid workers have seen significant gains. Real hourly wages for men 16 and older at the 10th and 20th percentiles have increased by about 6 percent since 1993, with especially large gains in the past 2 years. One might expect the earnings of low-wage women to have declined in recent years as supply expanded when a large number of them left welfare and entered the labor force. But on the contrary, wage increases for women were

Chart 3-3 **Hourly Wages of Low-Wage Workers Aged 16 and Over**
During the 1980s, wages declined for men and women at the 10th and 20th percentiles of the wage distribution, but significant gains have occurred since 1993.



Note: Sample includes part-time as well as full-time workers.
Source: Council of Economic Advisers tabulations of Current Population Survey data.

significant, with wages for those at the 20th percentile increasing by 4.7 percent since 1993.

These gains have not been confined to the lower end of the wage distribution. Real hourly earnings of the median male worker have increased by 3.6 percent since 1993, while those of the highest earning men and women (measured at the 90th percentile; these data are not shown in the chart) have increased by 6.4 percent and 6.2 percent, respectively.

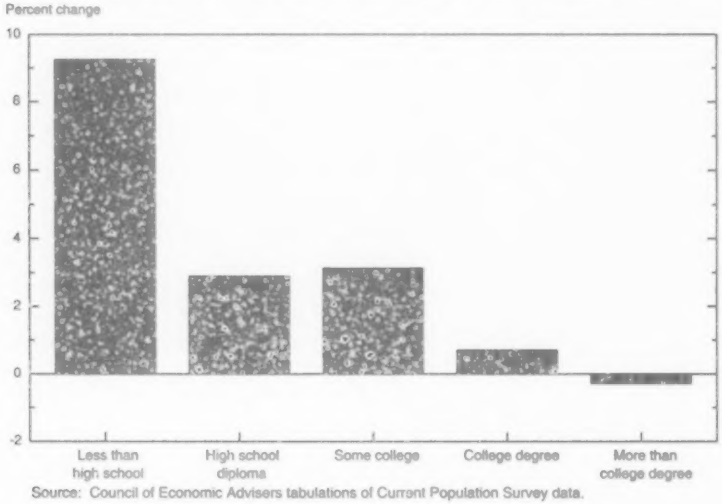
LESS EDUCATED WORKERS

Education is a key determinant of labor market success, and much of the decrease in real wages for low-wage workers over the past two decades may be due to changes in the economy that have placed increasing value on skilled labor. The shift from goods-producing industries to services and to a more technology-intensive workplace has increased the premium on education, and particularly on workers who have at least a bachelor's degree. In this new economic environment it is important to monitor the progress of those with less education, who risk missing out on gains in the economy as a whole. During the current economic expansion, however, those with less education appear to be sharing in the benefits of the tight labor market in a number of ways.

Since 1993 the strong labor market has sharply reduced unemployment rates for workers at all levels of educational attainment.

Particularly interesting, however, are changes in the employment-to-population ratio for people with different levels of attainment. As Chart 3-4 shows, high school dropouts have experienced a much larger relative increase in their employment rate than have workers with more education. This increase is the joint result of increased labor force participation among dropouts and decreased unemployment among those dropouts who are in the labor force. The economy created enough low-skilled jobs to employ a larger share of the dropout population, which is shrinking as more-educated younger cohorts replace older ones. Chart 3-4 shows the results for men and women combined, but looking at men and women separately yields the same qualitative result.

Chart 3-4 **Percent Change in Employment Rate by Level of Education, 1993-1998**
Among persons aged 25 to 64, high school dropouts have experienced a larger relative increase in their employment rate since 1993 than those with more education.



Source: Council of Economic Advisers tabulations of Current Population Survey data.

Workers with less education are not only experiencing employment gains; they are also beginning to share in wage gains. From 1993 to 1998, male high school graduates aged 20 and over without any college attendance experienced a real increase in their median wage of 2.8 percent. Although small, this was an improvement over their experience from 1979 to 1993, when their median wage *fell* by 21.8 percent. In 1998 the median real wage of male high school dropouts aged 20 and over finally increased, for the first time since at least 1979, by 7.0 percent.

Although, as these numbers show, both the employment and the earnings of workers with less education have been improving, education remains a key determinant of labor market outcomes. The fiscal 1999 budget passed by the Congress contained a down payment for the

Administration's initiatives to reduce class size by hiring 100,000 new teachers. The Administration has also encouraged both young people and adults to pursue further education and job training. The new GEAR UP program, for example, provides mentors to disadvantaged students preparing for college, and the new HOPE Scholarship tax credit provides up to $1,500 for the first 2 years of college or vocational school. Also, in 1998 the Administration obtained an increase both in total funding for Pell grants, to $7.7 billion, and in the maximum grant, from $3,000 to $3,125. These grants provide financial aid to undergraduates on the basis of need.

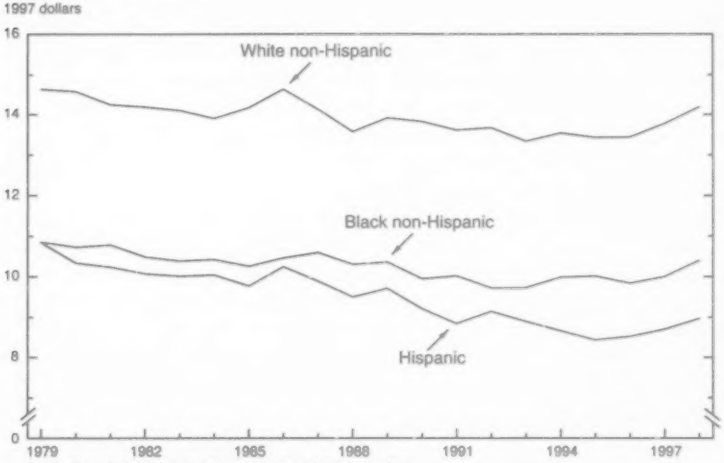
For fiscal 2000 the Administration is proposing substantial changes to America's schools. Measures in the President's budget will hold teachers, schools, and students more accountable for educational outcomes; will reduce class size; will provide for building and renovating public schools; and will recruit outstanding new teachers. The President has asked the Congress to expand on the $1.2 billion down payment made last year to reduce class size in the first three grades to a national average of 18. The Administration has proposed new Federal tax credits as incentives to help States and school districts build new public schools and renovate existing ones. The President's budget contains a series of new initiatives and funding increases to help recruit well-prepared people to teach where they are most needed, in high-poverty urban and rural communities. In addition, the President is proposing to help the more than 44 million adults who perform at the lowest level of literacy to acquire reading and writing skills. His budget would, among other things, establish a 10 percent tax credit for employers who provide workplace education programs for their employees who lack basic skills.

BLACKS AND HISPANICS

After years of decline, the real wages of black men began to increase in 1993; they have risen by 5.8 percent since 1996 alone. Black women and Hispanic men and women have also experienced recent gains (Charts 3-5 and 3-6). Because blacks and Hispanics are disproportionately represented in the lower end of the wage distribution, the long-run trends in their wages are similar to those for low-wage workers generally. Both of these minority groups have less education on average than the rest of the work force, and Hispanics are younger on average. When the real wages of workers without a college education started declining in the 1970s, the median real wages of black and Hispanic men started declining as well. In the last few years, however, their wages have been rising.

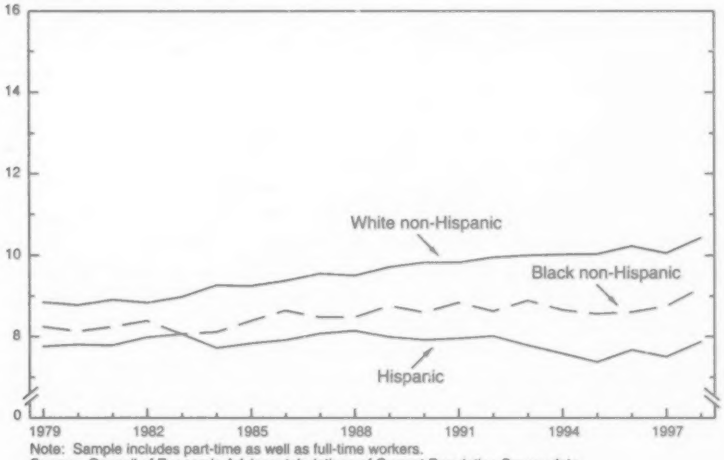
Employment opportunities are also expanding for minorities. The unemployment rates for blacks and Hispanics in 1998 were the lowest ever recorded, and were 4.1 and 3.6 percentage points lower, respectively, than in 1993. But minority unemployment is still unacceptably

Chart 3-5 **Median Hourly Wages of Men Aged 16 and Older by Race and Ethnicity**
After years of decline, wages have risen for white and black men since 1993 and for Hispanic men since 1995.



Note: Sample includes part-time as well as full-time workers.
Source: Council of Economic Advisers tabulations of Current Population Survey data.

Chart 3-6 **Median Hourly Wages of Women Aged 16 and Older by Race and Ethnicity**
Black and white women now earn their highest wages ever, and wages of Hispanic women have increased recently.

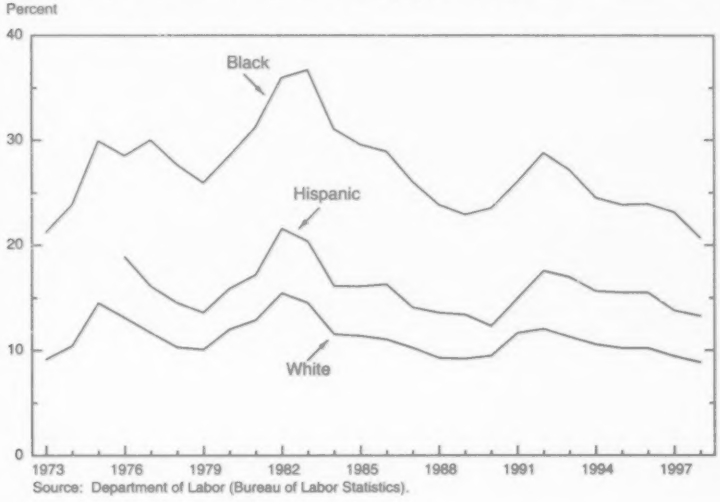


Note: Sample includes part-time as well as full-time workers.
Source: Council of Economic Advisers tabulations of Current Population Survey data.

high, at 8.9 percent for blacks and 7.2 percent for Hispanics in 1998, compared with 3.9 percent for whites.

The tight labor market of the 1990s appears to be helping even young minority workers, who suffered greater wage declines than others in the 1980s and who typically have extraordinarily high unemployment rates. By 1998 the unemployment rate among black youth aged 16-24 was 20.7 percent, lower than in any year since the data series began in 1973. And the unemployment rate among young Hispanics aged 16-24 dropped 3.7 percentage points between 1993 and 1998 (Chart 3-7). Moreover, the median real wages of young black males aged 16-24 rose by 6.2 percent in 1998 alone.

Chart 3-7 **Unemployment Rates of Persons Aged 16-24 by Race and Ethnicity**
Unemployment rates among young people have fallen since the early 1990s, although blacks continue to have more than twice the unemployment rate of whites.



Source: Department of Labor (Bureau of Labor Statistics).

IMMIGRANTS

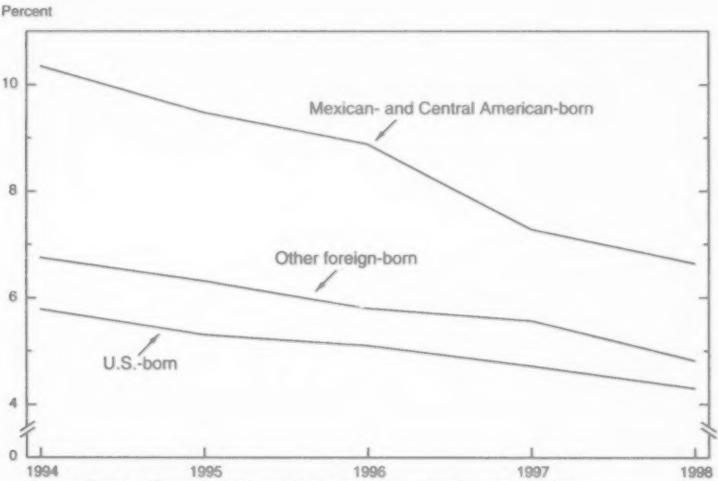
Foreign-born workers often face challenges in the labor market that native-born workers do not: weaker English skills, a lack of networks for finding jobs, and unfamiliarity with American institutions and workplace culture sometimes create barriers to their obtaining good jobs. Foreign-born workers, including those from Mexico and Central America (who account for about 30 percent of new immigrants since 1980), are less likely to have completed high school than are American-born workers. However, there is wider variation in educational attainment among immigrants than among natives; whereas many immigrants have minimal schooling, many others have completed college.

In fact, in 1990 immigrants and natives were equally likely to have a college degree.

A worrisome trend has been the decline in relative educational attainment and wages of successive cohorts of immigrants over the past few decades. Although educational levels have risen across successive cohorts since 1960, they have not kept up with the educational attainment of natives. Immigrants who entered in the late 1980s are much more likely to lack a high school diploma than persons born in the United States. However, during the past 4 years, immigrants have clearly been sharing in the labor market benefits of the economic expansion, particularly through reduced unemployment rates. (Comparable data are not available for earlier years of the CPS because the CPS did not collect data on country of birth until 1994.)

Unemployment rates decreased from 1994 to 1998 throughout the working population, but immigrants have experienced especially large declines (Chart 3-8). Particularly striking is the narrowing of the gap in unemployment rates between native-born workers and those born in Mexico and Central America. This trend has been coupled with steady

Chart 3-8 **Unemployment Rates by Nativity**
The gap in unemployment rates between natives and foreign-born persons has narrowed since 1994.



Source: Council of Economic Advisers tabulations of Current Population Survey data.

levels of labor force participation for men in this group and a small increase among women. As a result, employment rates for both males and females from Mexico and Central America have increased. A rising share of these workers are also working full time.

Certain groups of immigrants are also earning more. Since 1995 the median real wage of Mexican- and Central American-born immigrants has risen, by a total of 6.8 percent for men and 3.8 percent for women. This is particularly encouraging because one might expect the continuing addition of low-wage new entrants to the population of Mexican- and Central American-born immigrants to depress the group's median wage, even though individual immigrants' wages tend to increase with time in the United States. In fact, because entrants since 1995 are likely to have below-median wages and are included in the pool used to calculate the median wage in 1998, wages for Mexican- and Central American-born immigrants already employed in the United States in 1995 have probably risen by even more than the median for the group overall. The increases in the minimum wage in 1996 and 1997, as well as the President's proposed $1-per-hour increase over the next 2 years (Box 3-2), are especially important for large numbers of these immigrants, whose wages are at or near the minimum.

Box 3-2.—Increasing the Minimum Wage

On October 1, 1996, the minimum wage was raised from $4.25 to $4.75 an hour. It was again increased to $5.15 an hour on September 1, 1997. These were the first increases in the minimum wage in 5 years, during which its real value had fallen by 15 percent. The President has proposed to increase the minimum wage further, by $1 per hour over the next 2 years.

As Chart 3-3 shows, the wages of low-wage workers have increased markedly since 1996, and the recent increases in the minimum wage are likely to explain some of this rise. It has been estimated that almost 10 million workers benefited from the recent minimum wage hikes. Some have suggested that much of the benefit from a higher minimum wage goes to teenagers from well-off families, but in fact most minimum wage workers are adults from lower income families, and their wages are a major source of their families' earnings. Among workers who were earning between $4.25 and $5.15 an hour just prior to the 1996 increase, 71 percent were aged 20 or older, 58 percent were women, and one-third were black or Hispanic. Almost half (46 percent) of the affected workers worked full time, and most lived in low-income households. Over half the benefits from the higher minimum wage went to households in the bottom 40 percent of the income distribution. In 1997 the earnings of the average minimum wage worker accounted for 54 percent of his or her family's total earnings.

A potential side effect of increasing the minimum wage is a reduction in employment: with low-wage labor more expensive,

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Box 3-2.—*continued*

some firms may hire fewer workers. Many studies have examined this issue, and the weight of the evidence suggests that modest increases in the minimum wage have had very little or no effect on employment. In fact, a recent study of the 1996 and 1997 increases, using several different methods, found that the employment effects were statistically insignificant. Moreover, the unemployment rates of black teenagers and high school dropouts—two groups of workers most likely to be affected by the wage hike—are lower today than they were just prior to the increases.

Increases in the minimum wage and expansions in the earned income tax credit reinforce each other. Among low-wage workers, the joint effect of these changes has been a substantial increase in income. Between 1993 and 1997 the inflation-adjusted minimum wage rose by 9 percent, while the maximum payment under the earned income tax credit rose by 38 percent for one-child families (116 percent for two-child families). For families with one earner working full time at the minimum wage, the combination of higher earnings and a larger tax refund would have raised total income by 14 percent if the family had one child, and by 27 percent for a family with two or more children. As a result of these policy changes, one- and two-child families with a single full-time minimum wage worker now earn enough to escape poverty.

SINGLE MOTHERS

The percentage of children living in single-parent families, usually with a single mother, has risen sharply over the past few decades. The share of all families (defined as households in which one or more persons live with children of their own under age 18) that were headed by a single parent increased from 13 percent in 1970 to 32 percent in 1998. The majority of these families rely heavily on the mother's labor earnings; therefore, the labor market opportunities available to these mothers are critical for their families' economic well-being.

The labor force participation rate of single mothers aged 16-45 has been climbing since 1993, after remaining essentially flat for many years (Chart 3-9). In just the 4 years from 1993 to 1997, their participation rate increased by 8.7 percentage points, from 75.5 percent to 84.2 percent.

What caused this unusually large rise? The expansion of the earned income tax credit (EITC; Box 3-3) seems to have contributed. During the same 4 years the real value of the maximum EITC payment increased by 38 percent for workers with one child, including single mothers, and by 116 percent for those with two or more children. In contrast, the proportion of single women without children who

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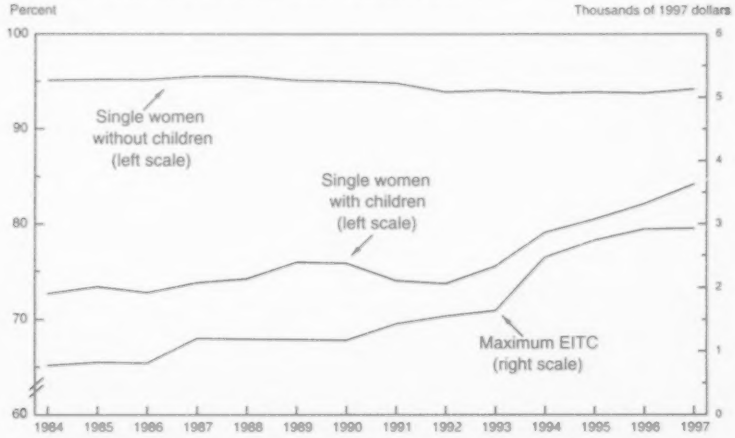
Chart 3-9 **Labor Force Participation Rates of Single Women**
The share of single mothers in the labor force has increased dramatically since 1993, due in part to increases in the earned income tax credit (EITC).



Note: After 1990, the maximum EITC is the average of the maximum for taxpayers with one child and with more than one child.
Source: Jeffrey B. Liebman "The Impact of the EITC on Incentives and Income Distribution," Tax Policy and the Economy, 1998. Updated by Council of Economic Advisers.

participated in the labor market—who became eligible for only a very small credit in 1994, if their earnings were very low—did not change over this period. As Chart 3-9 shows, the difference in labor force participation rates of single women with and without children has closely tracked growth in maximum EITC benefits.

One recent study concluded that as much as 60 percent of the increase in employment of single mothers since 1984 was attributable to expansions in the EITC. For the period between 1992 and 1996 the EITC explains 33 percent of the increase in annual employment among

Box 3-3.—The Earned Income Tax Credit

The EITC is a tax credit for low-income workers designed to reduce their overall tax burden. The credit is refundable; that is, workers can receive the full amount to which they are entitled even if it exceeds the income tax they owe. Workers apply directly to the Internal Revenue Service for the EITC and generally receive the credit as part of their tax refund.

Only families with a working member are eligible for the EITC, and the amount depends on the family's labor market earnings. For example, a worker with one child will receive a credit of 34 cents per dollar of 1998 earnings, up to a maximum of $2,271. A family with two or more children gets 40 cents per dollar up to a

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Box 3-3.—*continued*

maximum of $3,756 (Chart 3-10). Childless workers aged 25-64 with earnings under $10,030 are eligible for a much smaller credit of less than 8 cents per dollar up to a maximum of $341. For all eligible workers the credit remains at the maximum over a range of earnings and then is gradually phased out.

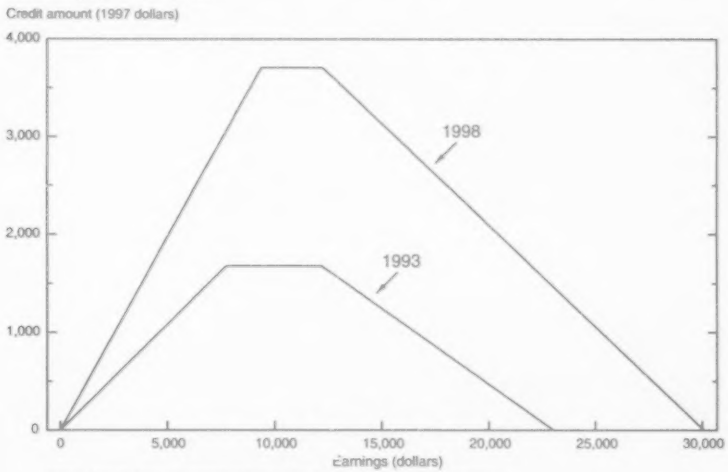
The EITC was significantly expanded under the Omnibus Budget Reconciliation Act (OBRA) of 1993. Before the 1993 law was passed, eligible working parents received just 19 to 20 cents for each dollar earned up to the maximum. OBRA 1993 increased the maximum credit for families with two or more children by over $1,500 (in 1998 dollars) and extended eligibility to families with incomes up to $30,095—about $3,600 more than under previous law. These expansions have resulted in significant increases in the labor force participation of single mothers.

A large proportion of families eligible for the EITC—81 to 86 percent in 1990—have claimed the credit. About 19.8 million workers are expected to claim the credit in tax year 1998, receiving an average of $1,584. About 16.4 million of these claims will be for workers living with children; these families will receive an average credit of $1,870.

The EITC is targeted to families living in poverty, with the goal of lifting their income above the poverty line. The latest estimate from the Bureau of the Census shows that the EITC lifted 4.3 million persons—workers themselves and their family members—out of poverty in 1997, more than twice as many as in 1993. Just over half (2.2 million) of these were under the age of 18, and 1.8 million were living in families headed by unmarried women. Updates by the Council of Economic Advisers of analyses reported in the 1998 *Economic Report of the President* find that over half the decline in child poverty between 1993 and 1997 can be explained by changes in taxes, most importantly in the EITC. The EITC enabled about 1.1 million blacks and nearly 1.2 million Hispanics to escape poverty in 1997. These statistics make it clear that the EITC has become a major weapon in the fight against poverty.

this group. A second study examined the 1986 EITC expansion, which was more modest than the 1993 expansion, and found that it, too, significantly increased labor force participation among single mothers, especially those with less education. Still another study, looking at the effects of the EITC on all eligible families, found that the 1993 expansion could account for an increase in labor supply of 19.9 million hours by 1996 and induced an estimated 516,000 families to move from welfare into the work force.

Chart 3-10 **The Earned Income Tax Credit in 1993 and 1998**
The EITC has been expanded considerably since 1993, with the maximum credit increasing by over $2,000.



Note: Credit amount depicted is for a family with two or more children.
Source: Department of the Treasury.

Other factors also contributed to the increase in labor force participation among single mothers. Changes in the welfare system, culminating in the enactment of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996, were very important. PRWORA replaced the Aid to Families with Dependent Children (AFDC) program with Temporary Assistance for Needy Families (TANF), which made most Federal welfare assistance dependent on work effort and limited the lifetime duration of assistance. Before PRWORA was passed, States had been experimenting with work requirements and time limits under waivers of the Federal rules governing AFDC since the early 1990s. Even before that, States had been changing their formulas for calculating AFDC benefits in ways that made it more worthwhile for low-income single mothers to work. It has been estimated that changes in the welfare system account for about 30 percent of the increase in employment of single mothers between 1984 and 1996, and at least 20 percent of the increase between 1992 and 1996. PRWORA is discussed further below.

Expansions of Medicaid coverage to low-income children who were not eligible for AFDC removed another disincentive to their mothers' working. Expansions of training and child care programs for low-income workers also encouraged these women to work. These factors played a much smaller role than did the EITC and welfare reform, however. Finally, the tighter labor market has made employers more

willing to hire welfare recipients and has made it easier for all single mothers to find jobs in recent years.

OVERCOMING DISADVANTAGES IN THE LABOR MARKET

The last several years have seen the gains from the ongoing economic expansion distributed throughout the population, reaching groups that had previously been left out. Low-wage workers, high school dropouts, blacks, Hispanics, immigrants, younger workers, and single mothers have all enjoyed better labor market outcomes. Administration policies, most importantly the expansion of the EITC and the increases in the minimum wage, along with efforts to keep the overall economy growing, have played a central role in achieving these successes.

However, members of these disadvantaged groups are still much more likely than other workers to be unemployed, and when they do find a job, they still earn lower wages than other groups. A competitive labor market is a two-edged sword. Although competition is the most efficient way to allocate labor and get goods produced at lower cost, it may result for some in wages that fail to ensure an adequate income. Competitive market forces produced an increasingly unequal distribution of earnings from the late 1970s into the early 1990s, so that some people found it difficult, even by working hard, to support their families.

Government can mitigate these undesirable side effects of labor market competition. Beyond its emphasis on education, this Administration has responded to the problem of low wages for the less skilled by expanding the EITC and raising the minimum wage, as described in Boxes 3-2 and 3-3. The Administration will continue to address this concern by designing policies that make work pay, improve education, and expand opportunities for education and job training, as described previously in this chapter. Moreover, the President's fiscal 2000 budget proposes an $84 million increase in funding for civil rights enforcement, including $14 million for an Equal Pay Initiative at the Equal Employment Opportunity Commission and the Department of Labor.

BENEFITS TO SOCIETY OF A STRONG LABOR MARKET

Better employment opportunities and higher wages are obviously good for workers individually. But today's strong labor market is enhancing the well-being of the whole of American society in ways that are less obvious. One way is by easing the implementation of the 1996 welfare reform act; another is by reducing crime.

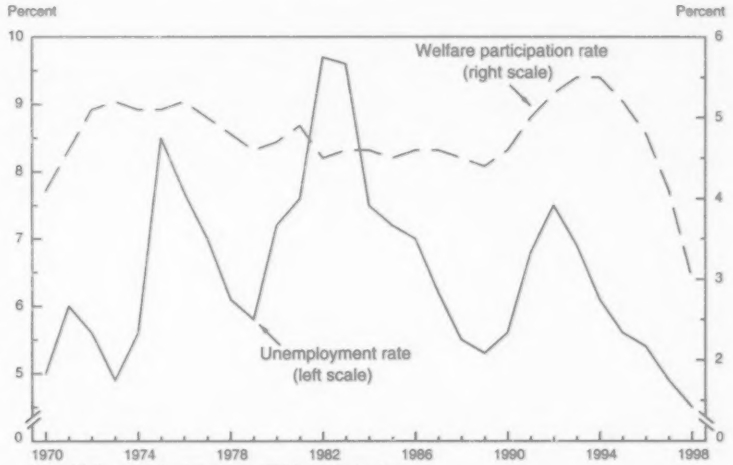
WELFARE REFORM

It has been 2½ years since the President signed the Personal Responsibility and Work Opportunity Reconciliation Act into law,

initiating dramatic changes in the Nation's welfare system. Welfare assistance is now work-focused and time-limited: with few exceptions, Federal welfare assistance is strongly linked to the recipient's efforts to find a job. Adults cannot receive aid for more than a total of 5 years during their lifetime, and in some States the maximum is even less. PRWORA shifted greater responsibility for welfare management to States and localities, many of which have responded quickly by redesigning and implementing their own welfare programs. In most States this effort builds on reforms initiated under waivers approved by this Administration before PRWORA was passed.

Welfare case loads have fallen dramatically since PRWORA was enacted in August 1996 (Chart 3-11). Moreover, this reduction has been experienced nationwide, with every State except Hawaii and Rhode Island posting double-digit percentage reductions in case loads. The national case load peaked in 1994, and since that time it has declined by 42 percent; in 17 States the case load in September 1998 was less than half what it had been in March 1994.

Chart 3-11 **Welfare Participation and Unemployment**
The percent of the population on welfare has declined dramatically since 1994.



Note: Welfare participation rate for 1998 is for September.
Sources: Departments of Labor (Bureau of Labor Statistics) and Health and Human Services.

What caused this unprecedented case load reduction? Case loads normally fluctuate with the business cycle, rising in periods of high unemployment and declining when unemployment is low, as it is today. Chart 3-11 illustrates the relationship between labor market opportunities and welfare participation over the past three decades. When unemployment increased in the early 1970s, so, too, did welfare

participation. The renewed increase in welfare participation in the late 1980s and early 1990s, as well as the decline that began in 1994, also corresponded with changes in employment opportunities during these periods.

Other evidence suggests that in the current expansion many businesses are coming to see welfare recipients as an untapped source of employees. In a 1998 survey of 400 businesses that are members of the Welfare to Work Partnership (Box 3-4), 71 percent stated that they or their industry faced a labor shortage, and that the tight labor market was one of the main reasons they were hiring welfare recipients. More-

Box 3-4.—The Welfare to Work Partnership

At the President's urging, the Welfare to Work Partnership was launched in May 1997 to lead the national effort to encourage businesses to hire people from the welfare rolls. Founded with five participating businesses, the partnership grew to include 5,000 businesses within 1 year; it currently has a membership of 10,000. In 1997 the 3,200 businesses then participating hired an estimated 135,000 welfare recipients.

An important goal of the partnership is to increase awareness within the business community that welfare recipients are productive potential employees. A survey of Michigan firms suggests that lack of such awareness may be an important barrier to some businesses: among firms that said they had been contacted by the Michigan employment agency and informed about the advantages of hiring from the welfare rolls, the majority had subsequently hired at least one welfare recipient. To overcome the awareness barrier, the partnership provides outreach, technical assistance, and support for hiring welfare recipients through a variety of channels, including a toll-free number, a World Wide Web site, a "Blueprint for Business" manual, and a guide to retaining welfare workers.

Many firms realize that welfare recipients are a pool of good potential workers, and the partnership has helped firms learn how to locate and identify them. In fact, in a survey of partnership firms who have hired former welfare recipients, 76 percent reported that these workers were "good, productive employees." The tight labor market has motivated many firms to consider hiring welfare recipients, but the hope is that the efforts of the partnership and the employment emphasis of PRWORA have built a relationship between employers and welfare offices that will endure into leaner times. If so, firms will continue to tap into the pool of reliable employees on the welfare rolls even after their hiring pressures ease.

over, the tight labor market is most likely causing employers to expand efforts to invest in and retain current workers, including former welfare recipients. The skills and job experience that former welfare recipients are accumulating during this expansion may be a lasting benefit.

However, the trend in welfare participation does not always match that in unemployment, most notably when other important changes are taking place, including changes in welfare benefits and in family structure, as well as policy reforms. Indeed, welfare participation did not increase during the recession of the early 1980s. It is difficult to determine how much each of several factors—the economy, program reforms, and other factors—has contributed to the recent case load decline. An analysis by the Council of Economic Advisers that examines these competing factors finds that a 1-percentage-point decline in the unemployment rate in each of 2 successive years is associated with roughly a 4 percent decline in the case load in the second year. Other studies have corroborated this finding. Applying this estimate to the change in the unemployment rate between 1994 and 1998 indicates that the improvement in the labor market can explain an 8.3 percent drop in welfare case loads. Given that the national welfare case load actually fell by 42.3 percent during this period, it appears that improved labor market conditions were responsible for roughly one-fifth of that decline. Similar analyses indicate that the share of the decline since 1996 that can be explained by the strength of the economy is much smaller, reflecting the importance of other changes, especially welfare reform. This result builds on the Council's analyses, which show that welfare reform achieved through State waivers played an important role in the case load reductions of the mid-1990s.

The case load reduction, combined with fixed block grant funding under PRWORA, has translated into greater resources for States and localities. The amount of the Federal welfare grant given to each State is now fixed (with some exceptions) and guaranteed, typically at the level of funding that the State received in 1994. As a result, States receive more Federal assistance today than they would have under the AFDC program, under which Federal transfers decreased as the case load fell. It has been estimated that, in 1997, 46 States had more welfare resources at their disposal—State and Federal dollars combined—under PRWORA than they would have had if the old system had been maintained. The difference nationwide was $4.7 billion, with a median difference across all States of $44 million, or 22 percent.

States are using these expanded resources in a variety of ways. Some have enhanced investment in services such as child care, transportation, and substance abuse treatment for those who remain on welfare, many of whom face multiple barriers to employment. Other States are expanding support for welfare recipients who have gone to work. In part because States have been unable to forecast case load levels with any degree of accuracy, some States have a portion of their

TANF grants in reserve at the Treasury. These States will be able to draw upon these reserves should case loads once again increase or should those remaining on assistance need more intensive and costly services. Many States are responding by reducing their own contribution to welfare funding (but can do so by no more than the Federal maintenance-of-effort requirement allows).

Although the additional resources have thus allowed States to concentrate on designing and implementing welfare reform, the expanded resources come with greater responsibility and accountability. States and localities now have many more decisions to make regarding their welfare programs. Moreover, because the Federal block grant is fixed, States bear most of the risk associated with a future rise in the case load.

Since PRWORA's enactment, this Administration has pursued various initiatives to enhance the welfare reform effort. The $3 billion Welfare to Work Grants Program targets long-term, hard-to-employ welfare recipients and noncustodial parents, helping them move into lasting, unsubsidized employment. These resources can be used for job creation, job placement, and job retention efforts. Most of the resources are given directly to localities through private industry councils or local work force boards. The Administration has proposed an additional $1 billion for the Welfare to Work Grants Program in fiscal 2000. The welfare-to-work tax credit is a credit to employers to encourage them to hire and retain long-term welfare recipients. The credit for each eligible worker hired is equal to 35 percent of the first $10,000 in wages during the first year of employment, and 50 percent of the first $10,000 in the second year.

The Congress fully funded (at $283 million) the President's proposal for welfare-to-work housing vouchers for fiscal 1999. The vouchers may be used by welfare families to reduce a long commute or to secure more stable housing to eliminate emergencies that keep them from getting to work every day on time. Another important barrier facing people who want to move from welfare to work—in cities and in rural areas—is lack of transportation to jobs, training programs, and child care centers. With the President's leadership, the Transportation Equity Act for the 21st Century authorized $750 million over 5 years to address this problem.

CRIME

The incidence of crime can be related to many factors, both in the individual and in the policy environment, but clearly one determinant is conditions in the legal labor market. A person who has a good job usually finds his or her time better spent in legitimate activities than in committing crimes, and risks losing more income from incarceration than does someone who is unemployed or earning low wages. Statistics

show that crime rates have in fact been dropping since the current economic expansion began: between 1991 and 1997, property crimes and violent crimes per capita fell 16 percent and 19 percent, respectively, and the total crime index dropped 17 percent.

Studies have found that unemployment is related to crime rates, but that the effect tends to be modest and insufficient to explain changes in crime rates over periods longer than the business cycle. New studies suggest, however, that crime may be more strongly correlated with wages than with unemployment. These studies find that potential criminals are more likely to be influenced by longer term prospects in the mainstream economy than by shorter term conditions, and that wages are a better measure of these longer term prospects than is the unemployment rate.

The new research shows that young men—the demographic group most likely to commit crimes—respond to wage incentives. Declining real wages during the 1980s and early 1990s appear to have influenced the rise in crime rates. In particular, the decline in wages of less skilled men between 1979 and 1995 is estimated to have increased property crimes by 10 to 13 percent and violent crimes by about half that amount. These findings are consistent with the idea that economic incentives play a greater role in economically motivated crimes such as burglary and robbery. In addition, because blacks have lower wages on average than whites, about one-quarter of the racial difference in the probability of committing a crime can be explained by the wage gap between the races.

Falling wages therefore provide at least a partial explanation for why property crimes did not fall much over the 1980s and early 1990s as the proportion of 18- to 24-year-olds in the population declined. Of course, other factors such as policing and sentencing practices also affect crime rates. But the correlation between wages and crime suggests that the current strong labor market and wage growth among young men have helped reduce crime rates.

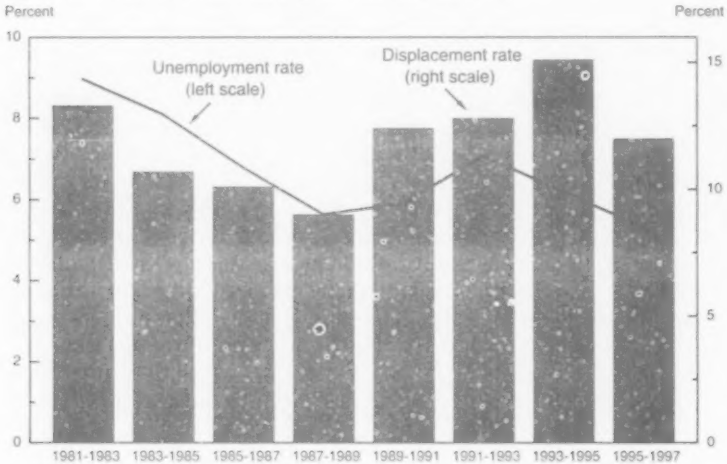
JOB DISPLACEMENT, TENURE, AND THE CONTINGENT WORK FORCE

Popular accounts sometimes suggest that the relationship between workers and firms is undergoing profound change. The contemporary work environment, in this view, is characterized by more frequent corporate downsizings and other job displacements, the disappearance of lifetime employment, and the rapid growth of a "contingent work force" that can no longer count on high and rising earnings and job security. However, a growing body of research using nationally representative data calls this picture into question.

JOB DISPLACEMENT

Workers are considered displaced if they leave their jobs involuntarily, because of a plant closing, insufficient or slack work, abolition of their position or shift, or some other, similar reason. Since 1984 the Bureau of Labor Statistics (BLS) has conducted a biennial, nationally representative survey of workers who have been displaced from their jobs sometime in the 3 years prior to the survey (in the early years of the survey the period was 5 years). Data from the 1996 survey showed job displacement to be unusually high given the overall strength of the economy. Extrapolation of the survey's findings indicated that about 15 percent of the work force had been displaced at some time between 1993 and 1995. This figure was up from 12.8 percent in 1991-93, despite a drop in the overall unemployment rate from 7.5 percent in 1992 to 6.1 percent in 1994 (Chart 3-12). This rise in job displacement led some analysts to argue that the employer-employee relationship had changed and that displacement was on a rising trend.

Chart 3-12 **Job Displacement Rate**
The displacement rate fell to 12 percent for the 1995-97 period, but it is still a third higher than in 1987-89, when unemployment was about the same.



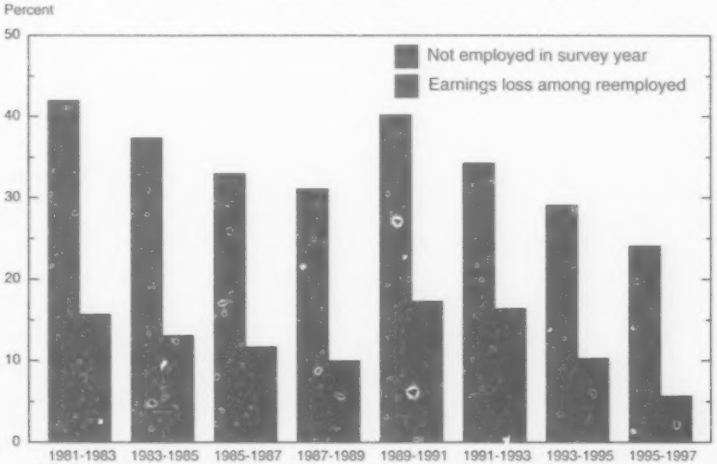
Sources: Henry S. Farber, "Education and Job Loss in the United States: 1981-1997," Princeton University, 1998, and Department of Labor (Bureau of Labor Statistics).

Results from the 1998 survey, however, suggest that this interpretation may have been premature: that survey showed a substantial decline in job displacement, to 12.0 percent for the 1995-97 period. All major groups of workers experienced improvements: men and women, younger and older workers, high school dropouts and college-educated workers, and workers in manufacturing as well as those in professional services. Nevertheless, the rate of job displacement in 1995-97 was still

one-third higher than it had been in 1987-89, when the unemployment rate was at a similar level.

Historically, between 30 and 42 percent of displaced workers were not employed 1 to 3 years after losing their jobs. Thus it is encouraging that this rate has fallen to 24 percent in the latest survey (Chart 3-13).

Chart 3-13 **Outcomes After Job Displacement**
Among displaced workers, the share not employed 1 to 3 years after losing their jobs fell to 24 percent in 1995-97; losses in earnings reached a record low of 5.7 percent.



Source: Henry S. Farber, "Education and Job Loss in the United States: 1981-1997," Princeton University, 1998.

In addition, reemployed workers typically earn less than they did in their previous jobs. For example, one study of workers in the 1970s and 1980s who had at least some earnings in the years after displacement finds an average earnings decline of 29 percent in the year of displacement, which subsequently shrinks to 10 percent. Here again the latest data are encouraging: the reduction in weekly earnings among those reemployed was only 5.7 percent in 1995-97, a record low, and earnings losses were at or near record lows for workers of all levels of education.

JOB TENURE

Trends in average job tenure—the length of time a person stays with the same employer—are often confused with trends in downsizing and job displacement. In fact these trends may be quite different: because many workers leave their jobs voluntarily, statistics on job tenure may not accurately reflect rates of displacement. Yet much media attention has focused on a purported disappearance of lifetime jobs, suggesting that workers are holding jobs for shorter periods, and often implying that these job terminations are more frequently involuntary. The

evidence finds that the percentage of workers with long job tenure (10 or more years) has declined somewhat. The share of workers aged 35-64 who have long job tenure fell by about 5 percentage points between 1979 and 1996 but remains substantial at roughly 35 percent. The decline in the percentage of long-tenured workers has occurred across many segments of the population. Workers at all levels of educational attainment have experienced similar rates of tenure decline, and declines have occurred across industries and occupations, narrowing gaps in average tenure that formerly prevailed between occupations. The trends differ for men and women, however, and the aggregate decline in the percentage of long-tenured workers masks an *increase* among women. Accounting for part of the overall decline since 1979 in the percentage of long-tenured workers are shifts in the demographic, industrial, and occupational composition of the labor force. Some of the decline is also due to the large number of new workers that firms have hired during the current expansion. Obviously, the addition of many workers with short job tenure by itself lowers the median tenure in the work force.

Retention rates, which give the likelihood that a given worker will remain with the same employer in the next year, are not complicated by the changing rate at which new workers are hired. Analysis of retention rates complements findings on the cross-sectional distribution of tenure over all workers. Workers with less than 2 years of tenure had moderately *higher* retention rates in the mid-1990s than in the late 1980s. On the other hand, retention rates appear to have decreased among workers with longer tenure. Again, however, some of these changes may be due to voluntary separation.

THE CONTINGENT WORK FORCE

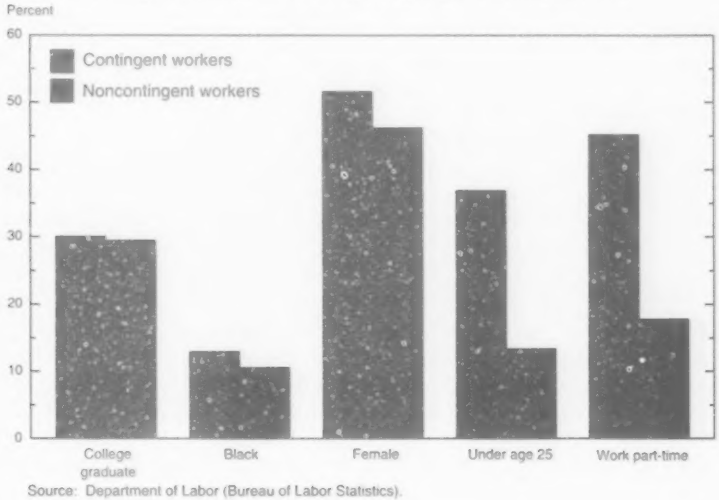
Contingent employment is defined by the BLS as employment without an implicit or explicit long-term contract. The BLS has conducted two surveys of such employment. The first, in 1995, found that contingent employment made up a relatively small share of total employment. The second, in 1997, found that that share was not increasing. Using the BLS's "middle" definition of contingency, about 2.4 percent of the labor force (3 million workers) identified themselves as contingent workers in February 1997, a slightly smaller share than in February 1995. This definition includes workers who say they expect to work (and have worked) under their current arrangements for 1 year or less, whether they are wage and salary workers, self-employed persons, or independent contractors. In addition, it includes temporary help and contract company workers if they have worked and expect to work for the customer to whom they were assigned for 1 year or less.

Forty percent of contingent workers in 1997 were in so-called alternative work arrangements. They included independent contractors, on-call workers, temporary help agency workers, and workers provided

by contract firms; the remaining 60 percent were in "traditional" jobs. None of these categories of contingent workers comprised more than 0.5 percent of the labor force.

Contingent and noncontingent workers were strikingly similar in terms of educational attainment and race (Chart 3-14). Also, contingent workers were employed in a wide variety of occupations, belying the view that all contingent jobs are low-skilled jobs. However, contingent workers include a relatively large proportion of very young workers: 37 percent of contingent workers, but only 13 percent of noncontingent workers, were less than 25 years old.

Chart 3-14 **Characteristics of Contingent and Noncontingent Workers, February 1997**
Contingent and noncontingent workers are similar in terms of educational attainment and race. Contingent workers are more likely to be young and working part time.



Source: Department of Labor (Bureau of Labor Statistics).

Forty-five percent of contingent workers were employed part time, compared with only 18 percent of noncontingent workers. Contingent workers also earned less: their median weekly earnings were only 53 percent of that of noncontingent workers, although differences in age and hours worked appear to account for much of the earnings gap. Regardless of age, however, contingent workers were less likely to be offered health insurance or a pension plan by their employer.

Data from 1997 show that nearly half of all contingent workers accepted their contingent jobs for personal reasons: because they wanted a flexible work schedule, for example, or because they were in school or in training. Thus, although contingent work is not a matter of choice for many people, it may allow others to balance their work and

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their non-labor market activities. In fact, although 57 percent of contingent workers stated that they would prefer a noncontingent job, 36 percent said they preferred contingency.

For contingent work to become widespread, of course, it must also meet the needs of employers. Accordingly, a 1996 survey asked employers their reasons for using flexible staffing arrangements. (These arrangements, which included hiring from temporary agencies, short-term hires, regular part-time work, on-call arrangements, and contract work, were most likely not all contingent jobs as defined above. But most were probably either contingent jobs or alternative work arrangements.) The most commonly cited reasons were fluctuations in workload and the need to cover absences of regular staff. Many employers also said they hired from temporary agencies or took on part-time workers as a means of screening candidates for regular jobs: 21 percent of those using agency temporaries and 15 percent of those using regular part-time workers cited this reason as important. Savings on wage and benefit costs were cited as important by only 12 percent of employers using agency temporaries, by 21 percent of those using regular part-time workers, and by 10 percent of those using short-term hires and on-call workers. Even so, the survey found that the hourly costs of workers in flexible staffing arrangements were lower than those of regular workers in similar arrangements, and that the savings were primarily due to lower benefit costs.

MYTHS AND REALITIES

Nationally representative data on the employer-employee relationship thus run counter to much current conventional wisdom. The last several years have seen both a decline in job displacement and, for those who are displaced, shorter spells of joblessness and a smaller loss of earnings upon finding a new job. The disappearing lifetime job of popular mythology is not to be found in the data, which instead show only modest declines in job tenure. Moreover, contingent workers are not disproportionately workers with little education, the wages they earn are similar to those of noncontingent workers of the same age, and contingent work has not become more prevalent in recent years. In addition, the flexibility of the contingent arrangement appears to be a significant benefit to many workers as well as to their employers. On the other hand, job displacement remains relatively high given today's low unemployment rates, and contingent workers are much less likely to receive pension or health benefits than are noncontingent workers. These developments are part of the reason why this Administration has expanded and redesigned Federal policies and programs of job training, education, lifelong learning, and assistance to dislocated workers—initiatives discussed in the next section.

NEW DEVELOPMENTS IN JOB TRAINING AND LIFELONG LEARNING

The Federal Government and the governments of the States provide assistance to workers through a number of channels. Unemployment insurance, job training, and reemployment services are cornerstones of the worker support network, helping workers to identify job opportunities and to retool, and providing financial support until they find their next job.

In the face of a rapidly changing global economy and the increased rewards to more highly skilled workers, this Administration has sought to strengthen America's work force development system and to promote lifelong learning. In August 1998 the President signed the Workforce Investment Act (WIA), which gives workers greater control over their training, streamlines public employment and training services, and makes all training providers more accountable for their services. WIA establishes Individual Training Accounts, self-directed accounts that allow workers more choice over their own training or retraining. To help workers make informed decisions about which training program is best for them, WIA also requires that training providers report the performance of their graduates in terms of job placement, earnings, and job retention. In addition, WIA establishes universal access to core employment services, such as skills assessment, career counseling, information about vacancies, job search assistance, and follow-up services to assist in job retention.

WIA streamlines employment services through consolidation. The Federal Government has set up partnerships with 48 States to build systems of one-stop career centers, which provide convenient access to a variety of training and employment programs under one roof. The act requires each local area to have at least one one-stop center providing job training, employment service activities, unemployment insurance, vocational rehabilitation, adult education, and other assistance. More than 800 such centers are already in operation.

WIA also strengthens accountability for States, localities, and training providers. States and localities will have to meet performance goals for job placement, earnings of placed workers, and retention, or else face sanctions. But if they exceed their goals, localities qualify to receive State incentive grants. To become eligible for funds under WIA, training providers must be certified under the Higher Education Act, the National Apprenticeship Act, or the State procedure used by the local Workforce Investment Board. To retain eligibility, each provider must meet performance standards established by the local board. The information that training providers must report on the performance of their graduates will be available at the one-stop centers, allowing potential trainees to make an informed choice among programs. This in turn will make providers more responsive to trainees' needs.

The Administration is especially concerned about those whose careers are interrupted by corporate restructuring, changes in government policies, or turbulence in global markets. The Administration has pushed to expand assistance programs for these dislocated workers, helping to nearly triple funding for these programs to $1.4 billion between 1993 and 1999. Under the Economic Dislocation and Worker Adjustment Assistance Act (EDWAA), one of the funding streams consolidated under the WIA, the Administration provides grants to State and local programs. They in turn decide who most needs assistance and how best to provide services, which can include on-site rapid response for announced plant closings, job search counseling and support, literacy courses, vocational education, and financial assistance during training. In addition, the Trade Adjustment Assistance (TAA) program, including a special transitional adjustment assistance provision under the legislation implementing the North American Free Trade Agreement (NAFTA-TAA), continues to help those workers whose jobs may be affected by competition from imports.

Workers are considered dislocated if they have lost their jobs and are unlikely to return to their previous industries or occupations. Included are those who have lost their jobs as a result of massive layoffs, plant closure, natural disaster, or Federal action. Farmers and ranchers hurt by general economic conditions, as well as the long-term unemployed with limited opportunities in their original occupations, may also qualify. (Note that the definition of "dislocated" is more narrow than that of "displaced" workers, discussed above.) In program year 1998, over 600,000 of these dislocated workers will have participated in the EDWAA program. In the program year that ended in June 1997, 71 percent of dislocated workers leaving the program were employed and had earnings, on average, of $10.39 per hour, or 94 percent of their previous wages. The Administration's strong and continued support for this program has also generated new funding for assisting trade-impacted workers not formerly covered by TAA or NAFTA-TAA and for buttressing the training system with innovative approaches for targeted groups.

The lifetime learning tax credit, enacted in 1997, targets adults who want to go back to school, change careers, or take a course or two to upgrade their skills, as well as college juniors and seniors and graduate and professional degree students. The 20 percent credit applies to the first $5,000 of a family's qualified education expenses through 2002, and to the first $10,000 thereafter.

Information about job openings and potential workers is especially important in a rapidly changing economy. America's Labor Market Information System, an Internet-based system that shares data on available jobs (America's Job Bank) and workers (America's Talent Bank), has been designed to meet this need. America's Job Bank (located on the World Wide Web at http://www.ajb.dni.us/) posts roughly 700,000 jobs on

any given day and received over 6 million "hits" (individual job searches) in July 1998 alone. America's Talent Bank (http://www.atb.org) was fully integrated with the job bank in May 1998, and as of July a total of 112,000 résumés had been posted with the service. In addition, workers and employers can obtain information about the wages and employment prospects of certain occupations across the country using America's Career InfoNet (http://www.acinet.org/acinet/).

These policies help ensure that all workers can find employment following a job loss, or improve their training and skills in order to move up in the labor market. This Administration is committed to making sure that the labor market benefits all workers, and that the benefits of the current economic expansion are enjoyed by all.

CHAPTER 4

Work, Retirement, and the Economic Well-Being of the Elderly

JUST 50 YEARS AGO, the baby boom was getting under way, and about 1 out of every 12 Americans was 65 or over. Today, about one out of every eight Americans is elderly, and the oldest baby-boomers are preparing for retirement. As the baby-boomers continue to age, the elderly population will rise dramatically. It is projected that by the time the youngest baby-boomers hit age 65, in 2029, almost 20 percent of Americans will be elderly—about 2½ times the proportion in 1950.

As America adjusts to this phenomenal demographic change, it is important to assess the economic well-being and work decisions of the current and the soon-to-be elderly. A review of statistics on the well-being of older persons and the labor market outcomes of workers who are approaching retirement age yields four important conclusions. First, long-term trends in the labor force participation of older Americans, both male and female, are changing. The century-long decline in male labor force participation at older ages has leveled off since 1985. More men aged 55-64 are continuing to work, often part time or in a different occupation, after "retiring." Meanwhile the share of women aged 55-64 participating in the labor force has increased by almost 10 percentage points in the past 15 years.

Second, employer-provided pensions and health insurance are also undergoing rapid change. The share of participants in defined-contribution pension plans, such as 401(k) plans, is growing and the share in defined-benefit plans shrinking. Employer-provided health insurance coverage for retirees has also become less widespread, less generous, and more expensive. These developments have many ramifications, both for retirement incentives and for the incomes and living standards of retirees.

Third, the economic status of the elderly as a group has improved remarkably during the past three decades. Their poverty rate has fallen to less than half what it was in 1970. In that year the elderly were more than twice as likely to live in poverty as the nonelderly, but today poverty is slightly less prevalent among the elderly than it is among younger persons.

Finally, the elderly are a diverse group, which means that averages can be quite misleading. In particular, although most elderly groups—men and women, blacks and whites, older and younger elderly, single

as well as married persons—have enjoyed economic progress, large disparities in well-being prevail among these groups. The most recent data show that just 4.6 percent of elderly married men, but 28.8 percent of elderly black women and 17.9 percent of elderly widows, live in poverty. And whereas Social Security benefits account for at least 80 percent of income for 38 percent of all elderly households, another 9 percent rely on Social Security for less than 20 percent of their income. Moreover, among those now approaching retirement age, over 10 percent have no financial savings whatsoever, and 30 percent have less than $1,200, whereas the top 10 percent have over $200,000 in financial assets. Over half of all blacks and Hispanics aged 51-61 have no financial holdings.

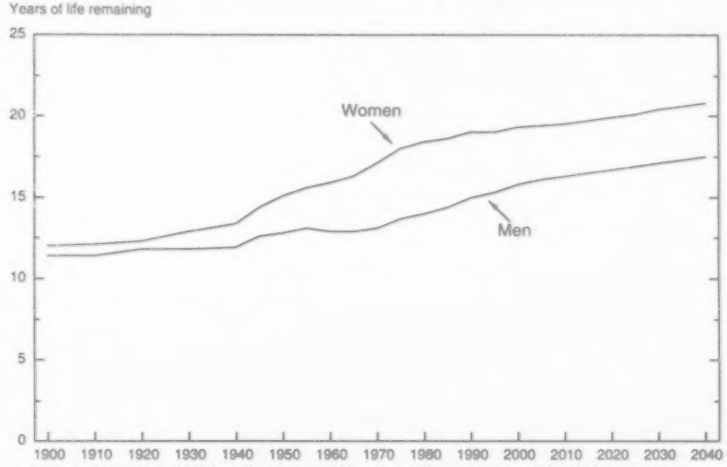
POPULATION AGING, LIFE EXPECTANCY, AND HEALTH STATUS

As we approach the 21st century, the confluence of a reduction in fertility and improvements in longevity is causing the share of older people in the population to rise. The total fertility rate—the number of children that an average woman will bear over her lifetime—has declined substantially since the turn of the century. This decline was not a steady, uninterrupted one, however: a substantial increase in fertility was associated with the baby boom of 1946-64. The total fertility rate increased from 2.3 in 1940 to 3.8 at the peak of the baby boom in 1957. It then fell to 3.2 by the end of the boom, and today the total fertility rate is about 2.0.

Life expectancy has risen throughout the 20th century. Americans today are more likely than their parents and grandparents to reach old age, and having reached that threshold they live a greater number of years thereafter. In 1900, 65-year-old men and women had similar remaining life expectancies, at 11.4 years and 12.0 years, respectively (Chart 4-1). These figures had risen by mid-century to 12.8 years for men and 15.1 years for women. The 1950s and 1960s saw substantial gains in life expectancy for older women, but stagnation for older men. Since the 1970s, however, strong gains have occurred for both sexes. Current life tables indicate that 65-year-old men and women today can expect to live an additional 15.7 years and 19.2 years, respectively. And projections imply that life expectancy will continue to increase in the next century.

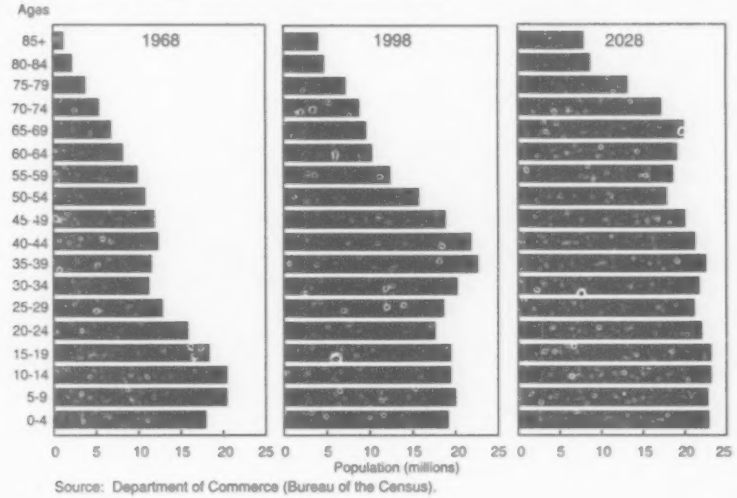
The anticipated transition of the baby-boom generation into old age has drawn attention to the aging of the population. The baby-boomers, who are currently between the ages of 35 and 53, will begin to reach age 65 by 2011. Chart 4-2 shows this bulge in the population, which swelled the number of children and adolescents 30 years ago. This group will reach retirement age over the next 30 years. Although the growth rate of the elderly population will be very low between 1995

Chart 4-1 **Life Expectancy at Age 65**
The number of years that Americans can expect to live after the age of 65 has increased throughout the 20th century and is expected to continue increasing.



Source: Data prior to 1998 from Department of Health and Human Services; 1998-2040 projections from Social Security Administration.

Chart 4-2 **Population of the United States by Age**
Baby-boomers created a bulge in the population of children and adolescents 30 years ago and will move into retirement ages over the next 30 years.



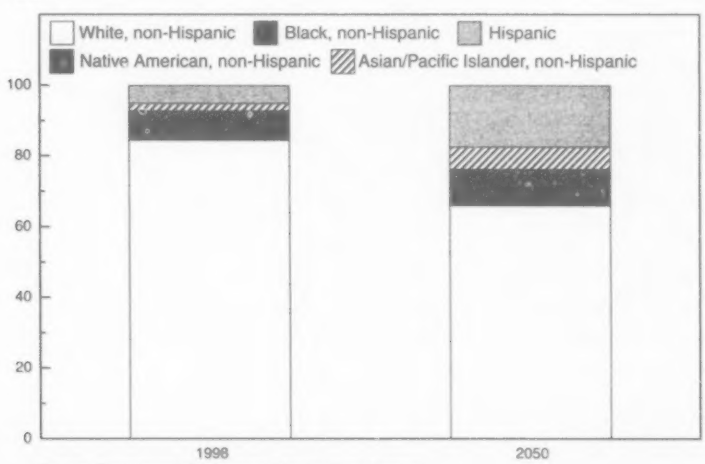
Source: Department of Commerce (Bureau of the Census).

and 2010 as a result of low fertility in the 1930s, that rate will more than double in the following 20 years. Also as a result of the baby boom, different age groups among the elderly will peak at different times: those between 65 and 74 will peak at 38 million in 2030, and those 75 to 84 will peak at 29 million 10 years later.

The "oldest old," those aged 85 and over, are of particular concern because of their high rates of poverty and institutionalization, described below. This group will grow both in number and as a share of the population, from about 4 million today to 18 million by 2050. Accounting for about 1.5 percent of all Americans today, the oldest old are projected to make up 23 percent of the elderly population and about 5 percent of the overall population 50 years from now.

At the same time that the size of the elderly population is increasing, its racial, ethnic, and gender composition will also change. In 1998 the non-Hispanic white population accounted for the largest proportion of elderly, and their number is projected to nearly double to 52.0 million by 2050. But the proportion of non-Hispanic whites in the elderly population will decline as the numbers of elderly persons of other racial and ethnic groups grow even faster, causing their proportion of the elderly population to double (Chart 4-3). The elderly Hispanic population, for example, is expected to grow to 13.8 million in 2050, or eight times what it was in 1998. In 1994, elderly women outnumbered elderly men by a ratio of 3 to 2 overall, and by 5 to 2 among those over 85. About half of elderly women were widowed, more than three times the percentage for elderly men, who were nearly twice as likely to be married.

Chart 4-3 **Projections of the Population Aged 65 Years and Over**
The share of the elderly population that is white, non-Hispanic is projected to fall by about one-fifth between 1998 and 2050.



Source: Department of Commerce (Bureau of the Census).

Population aging is not just an American trend but a major global phenomenon—a natural result of better health and nutrition and lower fertility and mortality rates worldwide. Never before have so many people in so many societies lived for so long. Yet as much as population aging is a natural result of the benefits of increased longevity and survival among all age groups, it also represents a fundamental shift in social structure that affects labor markets, family structures, and the social contract among generations.

Increasing life expectancy does not automatically imply that health status has improved. In fact, despite improvements in mortality at older ages in the 1970s, some studies claim that the health status of the elderly worsened during that period. But since 1980 the evidence points to a decline in chronic disability among the elderly. In 1994 the number of people aged 65 and older who were disabled (that is, who had functional problems lasting 90 days or longer in dealing with various normal activities of daily living) was 14.5 percent (or 1.2 million) lower than would have been expected if the age-specific chronic disability rates observed in 1982 had persisted. This decline was found to have contributed significantly to reducing the rate of institutionalization between 1982 and 1994. However, many older Americans still require long-term care (Box 4-1).

Although disability rates have declined they are much higher in lower socioeconomic groups. In 1993, for example, persons aged 50 and over who had not graduated from high school tended to perform much worse on four measures of physical functioning than did those who had attended college.

OLDER WORKERS AND RETIREMENT

Retirement patterns have been changing over time in response to changes in institutions and in the preferences and practices of employers and workers. These changes are reflected in changing long-term trends in the labor force participation of the elderly (that is, the proportion of the older population who are either employed or looking for work), particularly the decline in labor force participation rates of older men during most of this century. Recent years, however, have seen a leveling off of this decline. Since the mid-1980s, 55- to 64-year-olds in each year have been just as likely to be in the labor force as those in the preceding years. They have been more likely to work part time and less likely to work full time, however. This section reviews these changing patterns of retirement and their causes. It turns out that a variety of factors influence the timing of retirement, such as the rules governing pensions and Social Security benefits, characteristics of jobs held by the elderly and accommodation made to impaired elderly workers, and health insurance coverage. The section concludes with a discussion of unemployment, job loss, and tenure as experienced by the elderly.

Box 4-1.—Easing the Burden of Long-Term Care

Like Social Security and Medicare, long-term care will become a primary concern of baby-boomers as they approach retirement age. In 1994 an estimated 2.1 million elderly living in the community needed help because of problems with three or more activities of daily living (such as eating, bathing, dressing, or moving around) or because of a comparable cognitive impairment. That number will rise as the population ages, and the fast-growing population of the "oldest old," those 85 and older, is at greatest risk.

Much long-term care today is provided informally: about 65 percent of elderly persons living in the community and needing long-term care assistance rely exclusively on unpaid sources, most often family and friends. Surveys have found that 8 of every 10 caregivers provide unpaid assistance averaging 4 hours a day, 7 days a week. For many, such assistance competes with the demands of paid employment. In addition, home and community-based care requires substantial out-of-pocket expense, totaling over $5 billion in 1995.

The Administration has proposed four initiatives to help relieve the burden of families with members in need of long-term care. The first is a tax credit of up to $1,000 for people of all ages with three or more limitations in activities of daily living (or a comparable cognitive impairment). Persons needing long-term care themselves, or their family members who care for and house them, can claim the credit, which phases out at incomes of $110,000

LONG-TERM TRENDS IN LABOR FORCE PARTICIPATION AT OLDER AGES

Labor force participation rates for men 55 and older have declined during most of the 20th century. For example, the participation rate of men aged 55-64 fell from 89.5 percent in 1948 to 68.1 percent in 1998 (Chart 4-4). These trends in labor force participation are the result of two factors: trends in retirement age and trends in longevity. The average retirement age depends on the retirement rate at each age, and retirement rates have been increasing at younger ages and decreasing at older ages. Consequently, the estimated median age of retirement (defined as complete withdrawal from the labor force) for men declined, from 66.9 years in the 1950-55 period to 62.1 years in 1990-95.

Early in this century, most men worked until they died or became disabled, and both death and disability tended to occur at much younger ages than today. Today more men live longer after retiring than they did in earlier decades. Over the 1950-95 period, male life expectancy at age 65 rose by 20 percent. This helped to reduce over time the participation rate of men 65 and older, by increasing the

Box 4-1.—*continued*

for couples and $75,000 for unmarried taxpayers. The credit would provide financial support for about 2 million Americans, broadly expanding an existing set of tax allowances. Under current tax policy, taxpayers can claim the child and dependent care tax credit to cover part of the cost of care of a disabled spouse, when that cost is incurred by the taxpayer in order to work. A taxpayer who itemizes can also deduct any qualified long-term care expenses that exceed 7.5 percent of adjusted gross income. The new tax credit would defray some costs of both formal and informal care. Over half the chronically ill people thus helped will be elderly persons.

Second, the National Family Caregiver Support Program would fund State initiatives establishing "one-stop shops" that assist families caring for elderly relatives through training, counseling, and arranging for respite care.

Third, the Administration has proposed a national campaign to educate Medicare beneficiaries about the program's limited coverage of long-term care and help inform their care decisions. The need for information is great: nearly 60 percent of Medicare beneficiaries are unaware that Medicare does not cover most long-term care.

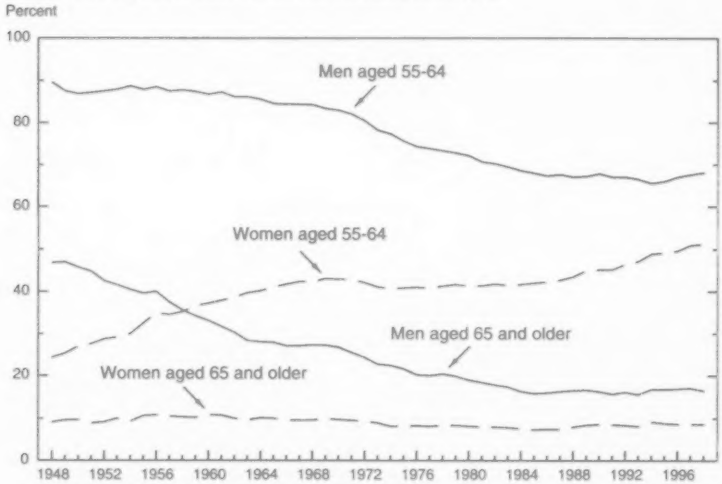
Finally, the Administration has proposed that the Federal Government serve as a model employer, by offering nonsubsidized, quality long-term care insurance to all Federal employees and using its market leverage to negotiate favorable group rates.

denominator (the total number of men in this age group). Therefore, the participation rate of men aged 65 and over has declined even more than the decline in average retirement age might suggest.

Meanwhile the labor force participation rate for women aged 55-64 has actually increased since 1948—in fact it has more than doubled, from 24.3 percent to 51.2 percent (Chart 4-4). This has happened despite a decline in women's median retirement age, from 67.7 years in 1950-55 to 62.6 years in 1990-95, because more recent cohorts of women have been more likely to be in the labor force during most of their adult lives (Chart 4-5).

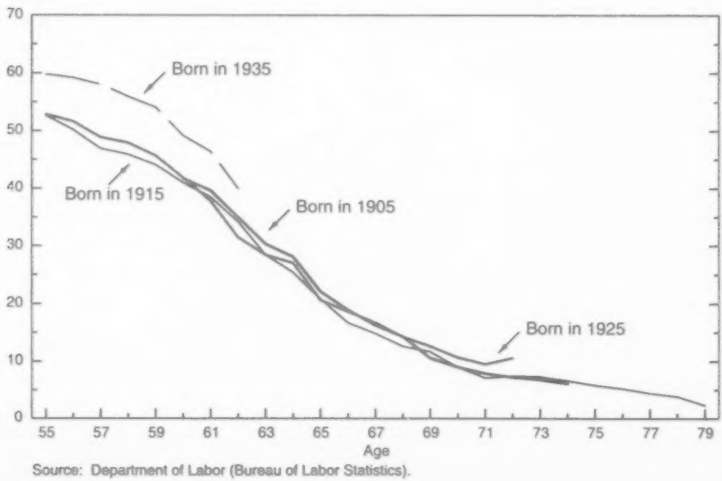
In the face of long-term improvements in health and longevity, why has the retirement age fallen, not risen, during the 20th century? Rising wages are a large part of the answer. As their earning power has risen, men have enjoyed both more income and more time for activities other than paid work. They have taken some of this additional time in the form of leisure at the end of life, as well as shorter workdays and workweeks and more holidays during the year. The growth of Social Security and employer pensions since the 1930s has also facilitated

Chart 4-4 **Labor Force Participation Rates of Older Men and Women**
Labor force participation by older men generally declined until the mid-1980s but has since leveled off; that of older women has increased since 1948.



Source: Department of Labor (Bureau of Labor Statistics).

Chart 4-5 **Women's Labor Force Participation Rates at Each Age**
Increases in the labor force participation of women across birth cohorts have offset the decline in labor force participation as women age.



Source: Department of Labor (Bureau of Labor Statistics).

earlier retirement, by increasing lifetime wealth for the early cohorts in the Social Security system and by providing income in old age. Even though earnings were rising from generation to generation, many individuals might not have saved enough to retire without these sources of income. For these reasons the average length of retirement has risen faster than the average male life expectancy at age 55; hence, the average male retirement age has fallen.

RECENT CHANGES IN THE LABOR FORCE PARTICIPATION OF OLDER MEN

There are signs that this long-term trend toward earlier retirement may have abated. Since the mid-1980s the decline in labor force participation rates for men in the older age groups has leveled off (Charts 4-4 and 4-6). Other evidence indicates that an increasing proportion of male pension recipients are continuing to work. For example, in March 1984, 37 percent of men aged 55-61 who had received pension income in the previous year were working. By March 1993 this number had climbed to 49 percent.

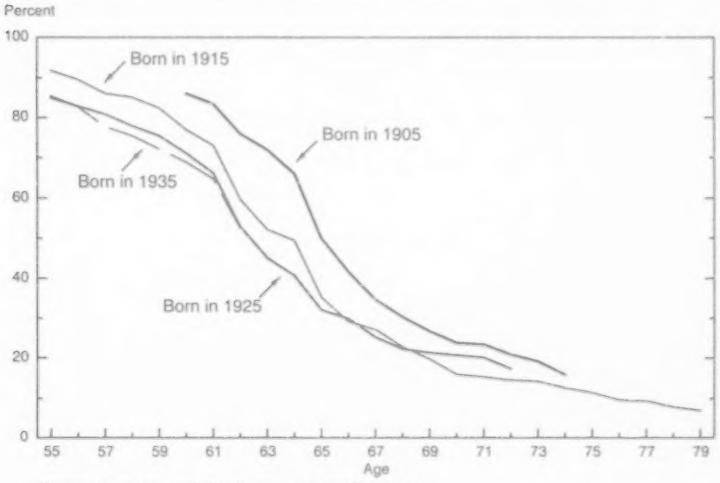
Rather than withdrawing from the labor force completely, many older men are leaving long-term career jobs but continuing to work, often part time or part year. Many are becoming self-employed. Chart 4-7 shows, for example, that between 1985 and 1997 the fraction of men aged 60-61 who worked full time, year round declined from 55.1 percent to 51.8 percent, while the fraction working part time increased from 5.7 percent to 10.4 percent. Increases in part-time work also occurred among men in other age groups. In 1997, 16 percent of employed men aged 55-64 and 30 percent of those 65 and over were self-employed.

The use of "bridge jobs" between a full-time career and complete retirement is not a new phenomenon. Evidence from the 1970s indicates that even then about a quarter of older workers took such transitional jobs. More recent evidence suggests that a somewhat higher percentage may be taking such jobs since 1985.

What accounts for the apparent stalling of the decline in male labor force participation at older ages? It is not yet clear whether the leveling off since the mid-1980s is a short-term, cyclical phenomenon or a new long-term pattern. And in any case, older men's hours of work are still falling, even if the percentage of older men working is not, because of the shift from full-time to part-time work seen in Chart 4-7.

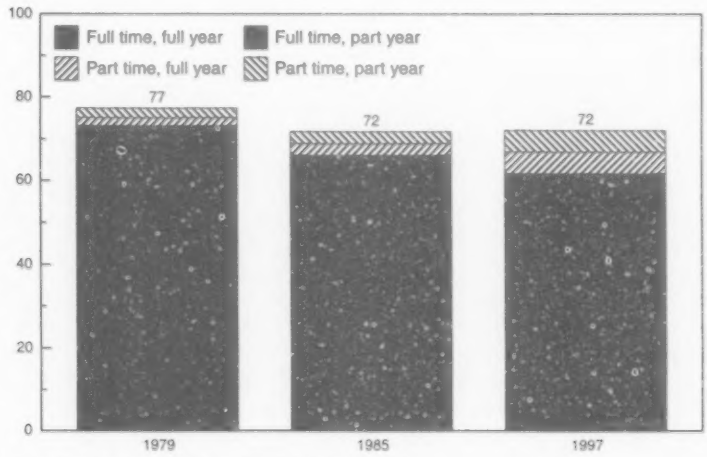
The recent increase in work by pensioners may stem from a need for income by those who were displaced during the recession of 1990-91. Some elderly persons cannot afford full-time leisure, but can finance part-time leisure by working part time. Pension recipients' need for income may also have grown in recent years because of rising health care costs. Not only have these costs risen in general, but many employers have stopped providing health insurance to their retirees or have reduced their benefits, as discussed below. The increase in early retirement

Chart 4-6 **Men's Labor Force Participation Rates at Each Age**
Not only does men's labor force participation decline with age, but until recently each new cohort of older men had lower age-specific participation than the one before.



Source: Department of Labor (Bureau of Labor Statistics).

Chart 4-7 **Full-Time and Part-Time Work Among Men Aged 60-61**
The fraction of men aged 60-61 who were working was the same in 1985 and 1997, but there was a shift from full-time to part-time work.



Source: Department of Labor (Bureau of Labor Statistics).

buyouts may also have contributed to increased work by pensioners. More workers now than in the past are able to spend their pension funds for other purposes, in advance of or at retirement. The shift to defined-contribution pension plans (discussed below) means that benefits are more often received in the form of a lump-sum distribution upon termination of a job, instead of as an annuity, as is typically the case in defined-benefit plans. Many workers spend these lump sums instead of rolling them over into another retirement account, thus reducing the funds available to them in retirement.

The rise in work among older persons may also be related to changes in the demand for labor. Employers may be becoming more willing to hire older workers, as the "baby bust" that followed the baby boom leads to labor shortages. Since 1980 the part-time wages of older men have risen relative to those of younger men. This has made part-time work more attractive to retirees.

If the long-term decline in the labor force participation rate among older men has indeed run its course, it could indicate a limit to the desire for more years of complete leisure at the end of life. Older people may want to continue using their skills, or to try something new, when they leave a career job while still relatively young and healthy (and to earn some income in the process). The growth of the service sector, where jobs are less physically demanding and schedules more flexible than in manufacturing, makes work at older ages more attractive today than in the past. Changes in pensions and Social Security rules, discussed below, have also removed many of the incentives to retire abruptly and completely.

If rising lifetime wages have been driving the long-term decline in labor supply of older men, we might expect that supply to level off in the coming decade, as the cohorts born after 1945, who came of age as wages stagnated in the 1970s, start turning 55. In other words, not only may their labor force participation rates remain more or less constant, but so may the share of these workers working full time, year round. Alternatively, an increase in labor force participation may combine with an increase in part-time, part-year work. Much will depend on employers' demand for older workers, as reflected in the wages, fringe benefits, and working conditions offered to them, and on the incentives built into pension and Social Security rules—pension incentives being a reflection of employers' demand for older workers.

INFLUENCES ON THE TIMING OF RETIREMENT

What factors enter into a worker's decision to retire sooner rather than later? Among the possible considerations are changes in wages and other compensation as one grows older, the structure of employer pensions and Social Security, the worker's health and the availability of health insurance coverage, and the influence of prevailing social norms. Although the effect of each factor cannot be quantified precisely, all play a role in the retirement decision.

Compensation

Wages on a given job do not tend to decline with age, nor should they be expected to: there is little evidence that productivity declines with age per se, in the absence of disability. Although clinical tests have found that manual dexterity declines with age, other skills improve, and older workers develop ways to compensate for whatever skill losses they do suffer. Wages do decline when older workers change jobs, but one cannot infer from this that age alone reduces productivity. Lower wages following a job change may be due to the loss of "firm-specific human capital"—such as seniority, knowledge of the organization, working relationships, or goodwill gained in the former workplace. It may also reflect the worker's choice to move to a position entailing less responsibility or less strenuous or stressful working conditions. Nevertheless, older workers who lose their jobs may opt to retire rather than accept the wage reduction that may accompany a job change.

The Availability of Social Security and Employer Pensions

The structure of Social Security and employer pensions may also influence the exact timing of labor force withdrawal. Certain Social Security rules (Box 4-2) create an incentive for many people to retire at age 62, the earliest age at which benefits are available for persons without disabilities. This is evident in the large drop in labor force participation of both men and women at age 62 (Charts 4-5 and 4-6) and in the spike in retirements among men at that age that has appeared since the mid-1960s, after early benefits were made available to men in 1961 (Chart 4-8).

Social Security has a number of conflicting effects on work incentives. On the one hand, the combined Social Security and Medicare payroll tax of 15.3 percent lowers the net wage, which by itself would tend to discourage work. On the other hand, more years of work could increase future benefits for some who have had years with little or no earnings, because substituting years of higher earnings raises one's average monthly earnings in the Social Security benefit formula. Future benefits are a form of deferred compensation, and increasing them tends to encourage work.

Apart from these features, the present value of expected Social Security benefits does not change for the average person, regardless of whether he or she begins to receive Social Security benefits at age 62 or at the normal retirement age (NRA). This is because the benefit increases by 8.3 percent per year that it is deferred (up to age 65), which is actuarially fair for a person with average life expectancy, and better than fair for someone with longer than average life expectancy. However, not everyone is average; many may not expect to live that long. For them, Social Security wealth decreases the longer they postpone benefits beyond age 62. This creates an incentive to begin taking benefits at 62 rather than later, for workers whose life expectancy is lower than the average.

Box 4-2.—Social Security Rules

The old-age, survivors, and disability insurance program of the Social Security system is designed to replace a portion of earnings lost because of retirement, disability, or death. It is financed by a dedicated tax of 12.4 percent on earnings in covered jobs, up to a maximum in 1999 of $72,600. That maximum is indexed each year to changes in the average wage. Formally, half the tax is levied directly on the employer, and half on the employee through payroll withholding, but it is generally agreed that, in an economic sense, the burden of the tax falls entirely on the worker. Self-employed workers pay the full tax.

Retirement benefits are based on a person's lifetime average indexed monthly earnings (AIME; the indexing reflects increases in national average wages) in covered employment. Only earnings up to the maximum taxable earnings in each year are counted. Before earnings are averaged, a certain number of years with the lowest (or zero) indexed earnings are dropped. The monthly benefit payable at the normal retirement age (called the primary insurance amount, or PIA) is calculated according to a progressive formula in which the replacement rate (the PIA as a percentage of average lifetime earnings) falls as lifetime earnings rise. Benefits are indexed to the consumer price index, and therefore have risen more slowly than average wages in the past two decades.

The normal retirement age (NRA) is the age at which one becomes eligible for a full retirement benefit. The NRA is currently 65 but is scheduled to rise gradually to 67, beginning with workers who will reach age 62 in the year 2000. Retirees may, however, begin receiving a permanently lower benefit as early as age 62. This minimum age for receiving benefits will remain at 62 even as the NRA rises. The benefit reduction is calculated to be actuarially fair (that is, it preserves the present value of expected benefits for a person with average life expectancy).

Between ages 62 and 70, receipt of both normal and actuarially reduced benefits is subject to a retirement earnings test. For persons below the NRA the annual benefit is reduced by $1 for every $2 of annual earnings above a certain exempt amount ($9,600 in 1999). For those between the NRA and age 70 the reduction is $1 for every $3 of annual earnings above a higher exempt amount ($15,500 in 1999). These exempt amounts are scheduled to increase in the future, and the President has proposed that this earnings test be eliminated entirely.

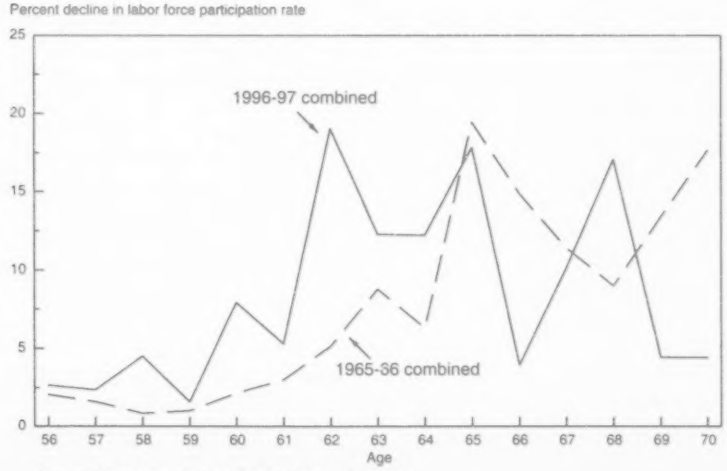
Persons who begin receiving retirement benefits before reaching the NRA and then earn more than the exempt amount, so that their benefits are reduced or completely withheld for a given

Box 4-2.—*continued*

month because of the earnings test, receive an actuarially fair increase in benefits when they reach the NRA. Thus, benefits lost are recovered later. Moreover, earnings from age 62 up to the NRA are considered in the AIME and may well increase the benefit one receives at the NRA. On the other hand, workers continue to pay the Social Security payroll tax, as well as income and other payroll taxes, as long as they work. From the NRA on, postponed benefits are increased by only 5.5 percent per year (for persons who reach age 65 in 1998-99), which is less than actuarially fair. However, this adjustment for delayed retirement is being gradually increased, in a process that began in 1990 and will continue until cohorts reaching the NRA in 2009 and after get an actuarially fair 8 percent per year for postponing benefits, up to age 70.

Those who discount future income at a higher rate than 8.3 percent may also want to start taking their Social Security benefits early. In particular, they may have a strong preference for current over future income because they are unusually "present oriented" or risk averse. Also, those who want to receive their Social Security benefits before the NRA need not leave the labor force entirely to do so. They can receive their full benefit as long as they keep their earnings under the exempt amount (see Box 4-2). However, part-time jobs are not always

Chart 4-8 **Net Labor Force Exit Rates of Men at Each Age**
The peak age at which men retire from the labor force has dropped from 65 to 62 in the past three decades.



Source: Department of Labor (Bureau of Labor Statistics).

available with the same hourly pay, benefits, and working conditions as full-time jobs, so that many may prefer to stop working completely rather than take a part-time job. Other individuals may wish to retire or work part time even before age 62, but cannot yet collect any Social Security benefits and do not have sufficient savings and pension income to live on. Because future Social Security income cannot be used as collateral for a loan, this creates an incentive to continue working until age 62. All of these considerations help to explain the spike in retirements at that age.

The fact that Social Security benefits deferred beyond age 65 are increased by only 5.5 percent per year (for workers aged 65 in 1998-99) means that Social Security wealth declines for a worker with life expectancy equal to or lower than the average who continues to earn more than the exempt amount beyond that age. As recently as 1989, the increase was only 3 percent per year. (See Box 4-2 for an explanation of this phased-in increase in benefits deferred beyond the NRA.) This provision has acted like an additional tax on earnings above the exempt amount that kicks in at age 65. Although the exempt amount is higher at ages above the NRA than below it, good part-time jobs may not be available for workers over age 65. The decline in Social Security wealth for persons whose earnings exceed the exempt amount at ages 65 and above has provided a special incentive to retire at that age, which is reflected in another drop in labor force participation and a spike in retirements at age 65 (Charts 4-5, 4-6, and 4-8). The rules governing private pension and Medicare benefits, as well as other social factors, also create incentives to retire at 65, as discussed elsewhere in this chapter.

Because the Social Security rules do not vary across persons in a given age group, it has been difficult to measure Social Security's effect on labor supply separately from other factors. One study used data for age groups that were subject to different exempt amounts from just before and after changes in the earnings test rules. The study found that the earnings of a substantial number of workers—over 20 percent of male workers aged 67-69, and nearly 10 percent of those aged 63-64—were clustered within $1,000 below the exempt amount. The cluster moved when the exempt amount moved. This study estimated that the effect of the earnings test is to reduce the average annual working hours of male workers aged 65-69 by about 4 percent. Only 28 percent of men (and 18 percent of women) in this age group are currently in the labor force, but more might seek jobs if the earnings test were completely eliminated, as the President has proposed.

In recent years the most common age for starting Social Security benefits has shifted from 65 to 62. Part of the explanation may be the continuing increase in lifetime income, which allows recent cohorts to retire earlier. Social norms may also be shifting, making it more

acceptable for men to be idle before age 65. The decisions in 1956 and 1961 to make Social Security benefits available at 62 for women and men, respectively, may have both reinforced and expressed such a change in norms—in a democratic society, legislation often tends to follow social norms. The abolition in 1978 of mandatory retirement before age 70 (Box 4-3) may also have removed age 65 as the predominant focus for retirement planning.

Box 4-3.—Age Discrimination in the Labor Market

The Age Discrimination in Employment Act (ADEA) of 1967 outlawed age-based employment discrimination against both employees and job applicants who are 40 years of age or older. Later amendments prohibited mandatory retirement before the age of 70 (in 1978) and then outlawed mandatory retirement altogether (in 1986), with a few exceptions. A 1990 amendment prohibited employers from denying benefits to employees because of age.

The number of age-discrimination charges filed with the Equal Employment Opportunity Commission (EEOC) has fluctuated over the past decade between about 14,500 and 19,800 per year. That number remained fairly constant between 1987 and 1990, increased sharply in the early 1990s (reaching a high of 19,809 in 1993), and then fell substantially after 1994. In fiscal 1998, 15,191 such charges were filed. Of the charges filed that year, 12 percent had outcomes favorable to the party bringing charges.Most of the rest ended either with a ruling by the EEOC of no reasonable cause or for administrative reasons.

Incentives provided by employer pensions must also be considered in any effort to explain changing retirement patterns. Twenty years ago, most employer pensions were of the defined-benefit (DB) type (Box 4-4). Workers covered by such plans typically had strong incentives to retire before age 65, as early retirement benefits had a higher actuarial value. Defined-contribution (DC) plans, including those with 401(k)-like features, on the other hand, contain no incentives for early retirement, because pension wealth continues to grow until the funds are withdrawn. As these plans have become more widespread in the past 20 years, workers have been less constrained in their choice of retirement age.

Job Characteristics and Job Accommodation

For the elderly as for others, the effect of health problems on the ability to work, and thus on the decision to work or retire, depends on several factors. These include the type of job one has, the opportunities for accommodating health problems, and the opportunities to switch to

Box 4-4.—Types of Pension Plans

Under a defined-benefit plan, a worker qualifies for a pension benefit by working in a covered category (which may exclude certain types of workers, such as part-timers) for a given number of years. This period, called the vesting period, is now 5 years for the vast majority of workers in the private sector. The benefit is then available at a certain age and is usually calculated by multiplying a given percentage of final earnings by the number of years of service. About half of workers with DB pensions are in plans that are integrated with Social Security; that is, the pension benefit formula reduces the pension amount to adjust for expected Social Security benefits. Reduced benefits may be available at an earlier age. These benefits often have a higher actuarial value than normal retirement benefits, and this produces strong incentives to retire at a certain age. Most DB plans in the private sector are insured by the Federal Government (see Box 4-7).

By contrast, defined-contribution plans do not entail age-specific retirement or work incentives. DC plans are essentially tax-favored savings accounts to which employers may contribute, sometimes even if the employee does not also contribute. Examples of DC plans are savings or thrift plans, deferred profit-sharing plans, money purchase plans, employee stock ownership plans (ESOPs), and 401(k) arrangements. Benefit levels in DC plans are not guaranteed and are not federally insured. Instead, the funds are invested, often at the worker's direction, and the amount of the eventual retirement benefit depends on the amounts contributed and on the portfolio's performance over the years. Benefits are usually paid in a lump sum upon departure from the firm, although sometimes other options are available. These funds are usually portable; that is, they may be rolled over tax-free into another pension plan or an individual retirement account. Because the employer's obligation is limited to its financial contribution and the plans reduce administrative costs and enhance flexibility, they are popular with employers.

Section 401(k) of the tax code allows an employee of a for-profit firm to contribute a share of his or her cash compensation to a DC plan, and to defer taxes on both the initial contributions and the investment returns. Employees of nonprofit organizations, State and local governments, and Indian tribes can participate in similar tax-deferred annuity programs. Under most before-tax retirement savings plans, the employer matches a percentage of contributions, but Section 401(k) does not require employers to contribute in this manner. This chapter refers to all plans providing for *employee* contributions as "401(k)-type plans." Although 401(k)-type plans are popular DC plans, there are other types of DC plans that do not provide for tax-deferred employee contributions (for example, most money purchase pension plans and a substantial share of profit-sharing plans and ESOPs).

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a less demanding job. There is no consensus on what constitutes a physically demanding job. One definition considers a job physically demanding if it entails regularly lifting objects that weigh at least 25 pounds. By this definition the share of older Americans employed in such jobs has fallen steadily, from 25 percent in 1950 (for those aged 60-64) to 7 percent in 1990. But other job requirements besides physical strength may make continuing work difficult for older workers. For example, about 90 percent of older workers say that their jobs require good eyesight and intense concentration.

Employers frequently accommodate the health impairments of their elderly workers. More than half of older workers who develop a new, health-related job limitation continue to work, and around half of those report that their employer has made some special accommodation for them. The most common types of accommodation involve changing the structure of the job, rather than making new investments in equipment or incurring other direct employment-related costs. Changes in job structure include changing the scope of the job (reported by 51 percent of those who have received accommodation), allowing more breaks and rest (45 percent), and providing assistance with certain aspects of the job (37 percent). Although the evidence is limited, accommodation rates appear to be similar for workers at all levels of education.

The direct cost of accommodating older workers with impairments appears to be small in most cases, with a median of about $200 per accommodation; 70 percent of accommodations cost less than $500. These estimates do not, however, take into account losses in productivity from changes in job scope and increased assistance from co-workers, nor, on the other hand, do they consider the cost saving of not having to hire and train a replacement worker.

Health Insurance and Retirement

Studies have found that the availability of health insurance to persons under 65 that is not contingent on working—either employer-provided retirement coverage or Medicare eligibility of a spouse—tends to increase a worker's likelihood of retiring. Widespread provision of retiree health benefits by employers may have contributed to the pre-1985 trend toward retirement before age 65, but its influence has diminished since then. The magnitude of the response and the role health insurance has played in retirement trends remain highly uncertain, however.

Between 1987 and 1996 the share of wage and salary workers aged 55-64 who were covered by health insurance from a current employer—their own or a nonelderly family member's—remained constant at 73 percent, despite increased availability of health insurance from employers. Although more workers in this age group were offered coverage, the takeup rate—that is, the fraction of offers accepted by the

worker—declined. More of these older workers are getting their health coverage through a spouse's employer, as the share covered by health insurance from their own main job fell by 2.5 percentage points, to 61.7 percent. The share of employees aged 55-64 who had access to health insurance coverage through either their own or a family member's job rose from 78.5 percent to 80.4 percent. However, the share of those with access who actually were covered by health insurance dropped from 92.8 percent to 90.4 percent, possibly because of the increased cost of premiums to the worker. Many of the rest had other private or public health insurance, but the fraction of non-self-employed workers aged 55-64 who were uninsured increased by almost 3 percentage points, to 12.0 percent in 1996.

Many employers provide health insurance for their retired workers, although an increasing number are requiring the retiree to share the cost. In 1993, 45 percent of full-time workers in medium-size and larger firms had access to health benefits upon retirement that were at least partly paid for by their employer. This fraction had declined considerably between 1985 and 1988 but changed little since then. Virtually all of these workers could get coverage from their employer to bridge the gap between retirement and eligibility for Medicare at age 65, and some coverage would continue after that for all but a small percentage. However, the percentage of workers who would have to pay part of the cost of coverage increased dramatically from 1988 to 1993, from 46 percent to 61 percent of those offered coverage before age 65, and by a similar amount for those offered coverage from age 65 on. Nevertheless, by one estimate the annual employer cost per retiree soared by 34 percent in real terms between 1988 and 1992 alone, to $2,760 (in 1992 dollars).

Because a majority of employers do not offer health insurance coverage to their retirees, and some firms, especially smaller ones, do not even provide coverage to their active workers, a large and growing number of 55- to 64-year-olds have no health insurance. The number of uninsured people in this age group grew by 7 percent in 1997 alone. Persons in this age group are considerably more at risk of needing expensive medical care than younger people, and often they cannot obtain commercial health insurance or find it unaffordable. And unless they are disabled or poor, they are not eligible for public insurance such as Medicare or Medicaid. The President has therefore proposed to allow 55- to 64-year-olds to purchase Medicare coverage (Box 4-5).

UNEMPLOYMENT AND JOB LOSS

Unemployment is less prevalent among the elderly than among younger workers. In 1998 the unemployment rate among 20- to 24-year-olds was 7.9 percent, the rate for 25- to 54-year-olds was 3.5 percent, and the rate for 55- to 64-year-olds was lower still at 2.6 percent.

Box 4-5.—Medicare Reform

The Medicare program, like Social Security, reflects the Nation's commitment to provide for the needs of its older members, and to support disabled Americans of all ages. Reforming Medicare to protect its financial soundness and ensure that it provides high-quality care for its beneficiaries has been one of the Administration's top priorities. The President worked to include important Medicare provisions in the Balanced Budget Act of 1997, which paved the way for an increasingly broad array of innovative health insurance choices for beneficiaries and shored up the Medicare trust fund. The President has taken steps to enroll more lower income seniors in supplemental benefit programs that provide financial assistance in paying Medicare premiums and other health care costs not covered by Medicare. The President has also developed initiatives to provide new preventive care benefits, to assist beneficiaries whose managed care plans have left the program, and to reduce Medicare fraud.

Even with these reforms, the aging of the population and the continuing development of new medical treatments will lead to mounting cost pressures for the Medicare program in the years ahead. The President has proposed to reserve 15 percent of the projected Federal budget surpluses over the next 15 years for the Medicare trust fund, which would extend the program's solvency from 2008 to 2020. In addition, with the President's encouragement, the National Bipartisan Commission on the Future of Medicare was formed to consider reforms to address the difficult long-term problems facing the program. The Commission's report, due in March 1999, will be an important next step toward the Administration's goal of developing a bipartisan agreement that will preserve and strengthen Medicare for all Americans in the 21st century.

The rate was slightly higher, at 3.2 percent, for workers 65 and older. Older workers have historically had lower unemployment rates than younger workers, and these data show that the current employment situation for older workers is strong.

In addition to having lower unemployment rates, older workers are less likely to be displaced (that is, to have lost their job because of a plant closing, insufficient or slack work, abolition of their position or shift, or some other similar reason) than are workers in their 20s and 30s. This has been true in every year since national data on displacement first became available in 1984. (See Chapter 3 for a general discussion of displaced workers.) According to the latest survey, conducted in 1998, the displacement rate (the ratio of workers displaced anytime in the 3 years prior to the survey to total employment at the time of the

survey) was about 13 percent higher for workers aged 25-34 than for those aged 55-64. The rate of displacement fell from the 1993-95 period to the 1995-97 period for all age groups. However, the decline was relatively small among older workers: the displacement rate fell 10 percent among those aged 55-64, compared with 21 percent among those aged 25-34.

Although the rate of job loss is lower among older than among younger workers, the cost of being displaced may be higher for workers in their late 50s and early 60s. Older displaced workers are much more likely to leave the labor force after job loss. Among workers displaced in 1995-97, 30 percent of 55- to 64-year-olds and 55 percent of workers 65 and older had left the labor force by 1998, compared with just 9 percent of workers aged 25-54. Presumably many of these older displaced workers retire following displacement. But among displaced workers who remain in the labor force, the share who are unemployed is higher among older workers. In addition, for workers who do find jobs after being displaced, wage losses are substantially higher among older workers than among younger ones. Thus, even if displacement is less likely among older workers, when it does occur it may be more costly.

THE UNPAID CONTRIBUTIONS OF THE ELDERLY

It is not easy to attach a dollar figure to the value of the many unpaid contributions made by the elderly to the economy and society. Nevertheless, it is important to acknowledge the wide range of productive activities in which they are engaged. According to a 1996 survey, 43.5 percent of the population over age 55 volunteered at nonprofit organizations and for other causes, averaging 4.4 hours per week per volunteer. Many quite elderly persons are part of this active corps of volunteers: almost 34 percent of those 75 years old and older reported volunteering. The settings in which older people volunteer are both formal and informal. For example, 65 percent of volunteers aged 55 or older reported serving with a religious institution, 22 percent volunteered with an educational institution, and 37 percent worked informally in their neighborhoods or towns.

Many older people need ongoing assistance because of functional limitations or cognitive impairments, yet do not need nursing home care. Instead they often receive informal care, typically from other elderly persons, including their spouses and children. This informal caregiving work is largely hidden, because it is for the most part performed in a nonpublic setting and is typically unpaid. The work may, however, be essential to the caregiver's family and to the financial stability of the household, as formal care arrangements may cause severe financial strain. The provision of assistance by family members and friends may also reduce the burden on publicly provided services (see Box 4-1 for a discussion of long-term care).

A 1992 survey found that 15.1 million Americans over the age of 55 were providing direct care to sick or disabled family members, friends, or neighbors. Twenty-eight percent of men and 29 percent of women aged 55 and over were caring for others, as were 22 percent of all persons aged 75 and over. The typical amount of caregiving was 5 hours per week, but 2.4 million caregivers spent 18 or more hours per week. And although the proportions of men and women who were caregivers were close to equal, the total number of female caregivers was greater because women outnumber men in the older population.

Grandparents, and even great-grandparents, are important sources of assistance to families. In some households children reside with a grandparent; in others one or more grandparents assist parents with caregiving in various ways. According to the 1992 survey, 14.2 million Americans over the age of 55 helped take care of their grandchildren or great-grandchildren.

The Bureau of the Census reports that in 1997, 3.9 million children, or 5.5 percent of all children, lived in a household maintained by a grandparent—a 76 percent increase since 1970. There were substantial increases in the number of households maintained by grandparents, with or without a parent present. Among children living in households maintained by grandparents, the greatest increases since 1970 were in households where one parent also resided. More recently, the number of grandchildren living with their grandparents without any parents present has increased most rapidly.

This increase in grandparents' assistance with the care of their grandchildren parallels the increase in single-parent families, but it may also be due in part to the increased financial pressures faced by young married couples, who struggle to meet the demands of careers while raising children. Grandparents also step in when parents cannot function adequately because of drug use, mental or physical illness, or incarceration, or when parents abuse or neglect their children.

THE ECONOMIC WELL-BEING OF THE ELDERLY

By almost any measure, the economic well-being of the elderly has improved tremendously over the past three decades. Income is the most widely used measure, but it is only a starting point, because it has several weaknesses as a measure of well-being. First, people are most concerned about the goods and services that income can buy—about consumption, in other words—not income per se. People save in some periods to finance their consumption in later periods. As a result, income may be higher or lower in one year than another even though consumption is similar in both years. This logic suggests that it is important to consider the consumption of the elderly, which is examined below. A second weakness of income as a measure of

well-being is that families have different needs, depending on the number of people in the family, their ages, where they live, and so on. Thus, an income that would seem generous to one family might be barely adequate for another. A third weakness of the income measure is that some economic goods do not have an easily quantifiable monetary value and are therefore not recorded as income. Most important for the elderly, home ownership and medical insurance certainly increase well-being, yet they are not captured by measuring before-tax money income. As a result, two families with identical incomes and identical needs could have very different economic status: one might, for example, own a valuable home and have generous medical insurance coverage, whereas the other rents an apartment and has no insurance.

Because of these weaknesses, three other sets of indicators of well-being are examined here in addition to income: the poverty rate, indicators of wealth accumulation (including home equity), and indicators of health status. The poverty rate adjusts differences in income across families for disparities in family size and composition. Wealth provides a cushion for people to smooth their consumption over time and creates a buffer against adversities, such as health problems, that may require substantial expenditure. Finally, earlier in this chapter changes in health status and life expectancy were examined, which are also important measures of well-being.

Most of the national data used to examine families' economic status are based on surveys of the noninstitutionalized population. This limitation is not of great importance when examining older workers, or even all persons over 65—only 5 percent of the elderly live in an institution (typically a nursing home). However, the proportion of institutionalized elderly rises sharply with age, to almost one-fourth of all persons 85 and over. Older persons in institutions typically have few economic resources and are in poor health. Therefore, findings from surveys of the noninstitutionalized population will not necessarily apply to the oldest old. Box 4-6 examines changes in living arrangements of the elderly during the 20th century, with a focus on widows.

INCOME AND CONSUMPTION

The Three-Legged Stool

Economic security in old age is often described as a three-legged stool, the legs being Social Security benefits; income from accumulated assets, including savings and home ownership; and pension income. But the notion of a stool with three legs of roughly equal size is misleading. The importance of each source of income varies tremendously among the elderly—many Americans depend almost entirely on Social Security, for example. In addition, for many elderly households labor market earnings provide a fourth leg to the stool. Moreover, the

Box 4-6.—The Changing Living Arrangements of the Elderly

Through most of history, the family has played an important role in providing support to the needy elderly. Shared housing can be an especially important and intensive form of support, and the past century has seen tremendous changes in living arrangements among the elderly. These changes have been particularly striking among elderly widows, who now account for 27 percent of all persons over 65.

The share of elderly widows living alone stayed roughly constant at a low level—10 to 15 percent—for several decades until about 1940 (Chart 4-9). Between 1940 and 1980, however, that proportion increased sharply, and the share living with adult children fell. By 1980, 59 percent of elderly widows were living by themselves, and only 22 percent shared a home with their children. This strong upward trend in widows' independence ended in 1980: living arrangements in 1990 were similar to those observed in 1980. It is estimated that rising economic status, primarily due to wider coverage and more generous benefits from Social Security, accounted for 62 percent of the increase in the share of elderly widows living alone between 1940 and 1990. About 9 percent of the change was explained by a decline in the number of children available for widows to move in with.

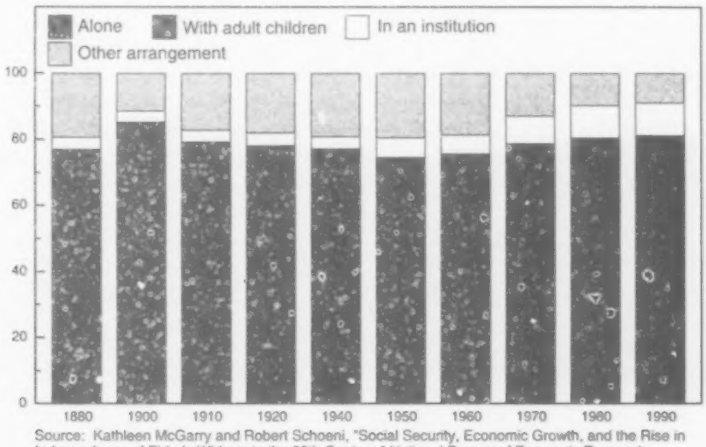
When elderly people have been asked to express their attitudes about living arrangement options in the event they needed care, 68 percent say they would like to receive assistance in their own home, and only 20 percent state that they would like to move in with relatives. Apparently, improvements in widows' economic status have allowed them to fulfill this desire to live independently. But despite these gains, poverty remains relatively high among widows (see Table 4-4).

average share of income from each source has changed over time and may continue to change in the future.

In 1962, before the sharp increases in Social Security benefits of the late 1960s and early 1970s, Social Security accounted for 31 percent of income for the elderly and their spouses; asset income accounted for 16 percent, and pension income was 9 percent. Earnings were also important at 28 percent. The remaining 16 percent of income included welfare and all other sources of income.

Income from these sources has grown at different rates in the past 30 years (Chart 4-10; income data refer to before-tax money income, the official Census Bureau definition, unless otherwise noted). The share provided by Social Security has increased, to 40 percent of income on average in 1996, whereas pensions and asset income each

Chart 4-9 **Living Arrangements of Elderly Widows**
Between 1940 and 1990, the share of elderly widows living alone increased sharply, and the share living with adult children fell.



Source: Kathleen McGarry and Robert Schoeni, "Social Security, Economic Growth, and the Rise in Independence of Elderly Widows in the 20th Century," National Bureau of Economic Research Working Paper No. 6511, 1998.

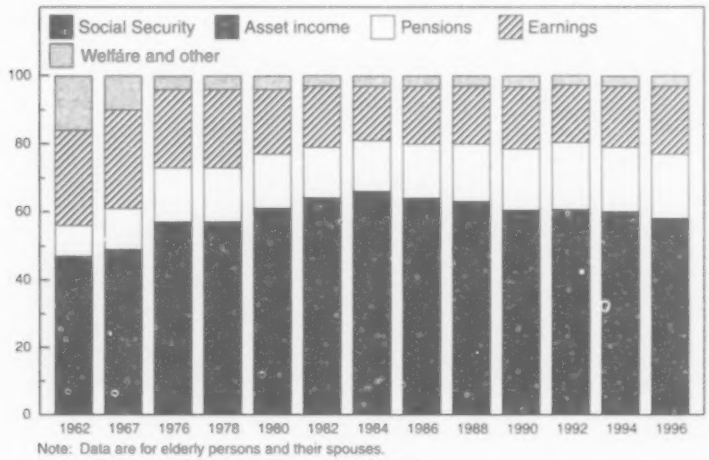
composed about one-fifth of income. The share of income comprised of labor earnings has declined substantially, as is to be expected given the decline in elderly labor force participation during this period. These changes took place during a period when the median incomes of both married and single elderly persons nearly doubled.

The composition of income looks quite different at different income levels. Among elderly households in the bottom fifth of the income distribution in 1996, Social Security accounted, on average, for 81 percent of income, public assistance for 11 percent, and asset income and pensions for only 3 percent each (Chart 4-11). Clearly, a large segment of the elderly have saved relatively little for their retirement. Elderly households in the top quintile of the income distribution rely fairly evenly on Social Security, asset income, pensions, and labor market earnings.

Saving Social Security

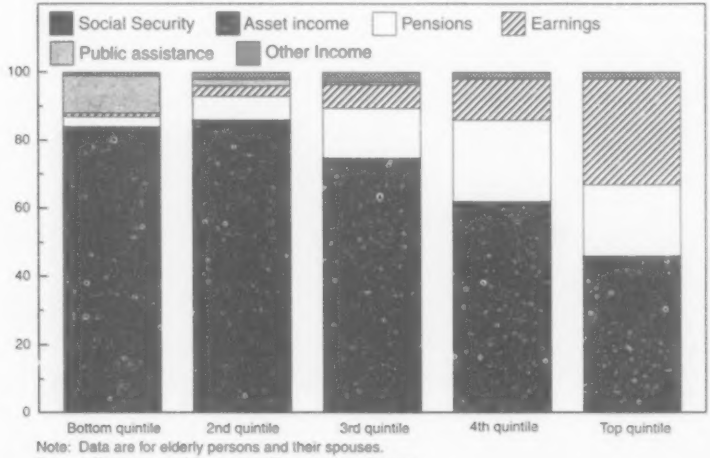
Social Security plays an important and unique role among the sources of income for the elderly. As discussed in Chapter 1, it is a family protection plan as well as a pension system, providing Americans for more than half a century with income in retirement and protection against loss of family income due to disability or death. In particular, by providing a lifetime annuity, it offers a level of income security difficult to obtain in private markets. Through its special contribution to the well-being of the elderly, survivors, and the disabled, Social Security has been an extremely successful social program. Yet the demographic pressures of population aging,

Chart 4-10 **Composition of Income Among the Elderly**
The share of income from earnings has declined over time for persons aged 65 and older and their spouses, while the share from pensions has increased.



Note: Data are for elderly persons and their spouses.
Source: Department of Commerce (Bureau of the Census).

Chart 4-11 **Composition of Income by Quintile Among the Elderly, 1996**
The composition of income differs for lower versus higher income elderly. Social Security is the main source of income for poorer households.



Note: Data are for elderly persons and their spouses.
Source: Department of Commerce (Bureau of the Census).

mentioned earlier in this chapter and discussed at greater length in the 1997 *Economic Report of the President*, will require forward-looking action from policymakers to preserve the program's financial viability in the first quarter of the next century and beyond. Chapter 1 describes the President's proposals to do this.

From Defined-Benefit to Defined-Contribution Pension Plans

An important source of income for many elderly is employment-related pensions. The past 20 years have seen dramatic changes in the prevalence of the two main types of pension plans. Defined-contribution plans, including 401(k)-type plans, have gained in popularity as participation in defined-benefit plans has declined (Table 4-1; see also Box 4-4 for a discussion of the two types of plans). The portability of DC plans favors mobility among jobs, and workers' demand for more-portable benefits may have contributed to the ascendance of these plans. DB plans are more prevalent in unionized manufacturing firms and in the public sector, both of which have seen a decline in their share of the work force, thus contributing to the decline in DB participation rates. Before passage of the Employee Retirement Income Security Act (ERISA) in 1974 (Box 4-7), employees in DB plans were exposed to the serious risk that their employers would underfund the plan or divert its funds to other purposes. Even with the protections afforded by ERISA against underfunded DB plans, DC plans have become increasingly popular, suggesting that workers have come to accept the investment risks inherent in these plans in exchange for their flexibility. Benefits in DC plans depend on uncertain investment returns, whereas DB retirement benefits are more certain because they are usually tied to years of employment according to a known formula. Many workers are in DC plans that supplement a DB plan, but almost all of the recent growth in DC participation has been among workers who do not have DB plans.

The growing prevalence of DC, and especially 401(k), plans represents a major shift of responsibility for providing for retirement income from the employer to the worker, making the provision of retirement income more and more like individual (albeit tax-advantaged) saving. Concomitantly, the trend toward DC plans has shifted certain risks between employer and worker. Under a DB plan, the nominal benefit amount is guaranteed at retirement, and the employer bears the risk of providing this amount. The worker has no control over how the pension fund is invested. Moreover, a worker's pension is at risk if he or she changes jobs. Since there typically is no provision for worker contributions, workers usually receive nothing at all from jobs that end before the vesting period is completed. Finally, because benefits for vested employees are determined in nominal terms when employment terminates, inflation may drastically erode a pension's purchasing power by the time a separated worker reaches retirement age.

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TABLE 4-1.—*Estimated Pension Coverage and Offer Rates for Private Sector Wage and Salary Workers*

Year	Percent of workers covered by a			Percent of workers offered a 401(k)-type plan[2]
	Primary defined-benefit plan[1]	Primary defined-contribution plan[1]	401(k)-type plan[2]	
1981	37	9	(3)	(3)
1982	36	10	(3)	(3)
1983	35	11	3	7
1984	34	11	(3)	(3)
1985	33	13	(3)	(3)
1986	32	14	(3)	(3)
1987	31	15	(3)	(3)
1988	30	15	14	25
1989	29	16	(3)	(3)
1990	28	17	(3)	(3)
1991	27	18	(3)	(3)
1992	26	20	(3)	(3)
1993	26	20	23	35
1994	24	21	(3)	(3)
1995	23	23	(3)	(3)

[1] For workers covered under both a defined-benefit and a defined-contribution plan, the defined-benefit plan is designated as the primary plan unless the plan name indicates it provides supplemental or past service benefits.
[2] All plans providing for tax-deferred employee contributions, whether or not the employer also contributes.
[3] Not available.

Source: Department of Labor (Pension and Welfare Benefits Administration).

Most private 401(k)-type DC plans, on the other hand, rely on worker contributions for at least a portion of benefits. The worker typically decides how much to contribute and where to invest the funds (within certain limits). Although workers have greater control over investments in DC plans, they also bear the risk of variable returns on those investments, in marked contrast to DB plans. Because there is no vesting period for *employee* contributions in either type of plan, they belong to the worker from the start. Employers often make matching contributions to 401(k) plans, which belong to the worker once the vesting period is completed. A job change need not affect the worker's accumulation, provided the worker leaves the funds in the account or rolls them over into a new tax-deferred account. However, only a third of those aged 45-54 in 1993 who had received a lump-sum pension distribution had put it into a retirement account; fewer than half had put it into any financial asset. Of those aged 25-34, only 25 percent had put their lump sums into financial assets, including retirement accounts.

Less wealthy, lower income, and less educated workers tend to be more risk averse in their investment choices; that is, they tend to invest in more conservative, fixed-income securities rather than in stocks. By taking less risk (other than inflation risk), they earn lower long-run rates of return on average and therefore tend to end up with smaller accumulations at retirement than do higher income, wealthier

Box 4-7.—The Federal Role in Employer-Provided Pension Plans

The Employee Retirement Income Security Act of 1974 governs pension and welfare plans sponsored by private employers. The act covers both defined-benefit and defined-contribution plans. ERISA was enacted because of concerns about the private pension system: that too few employees were receiving or would receive the pensions they had come to expect; that too many participants were being treated unfairly by plans and employers; and that existing law was inadequate to deal with these problems. Title I of the act spells out the protections it provides for workers and fiduciary standards for employers, trustees, and service providers. Title II sets forth standards that plans must meet in order to qualify for favorable tax treatment, and Title III contains administrative provisions. Title IV, which is carried out by the Pension Benefit Guaranty Corporation, a Federal agency, regulates employers' funding of their plans to make sure they set aside sufficient funds to pay the promised pensions. It also insures vested participants' pensions, at least up to certain levels, against the eventuality that the employer cannot pay.

This Administration has worked for continued pension reform to promote retirement saving. Many of the President's proposed pension provisions were adopted in the Minimum Wage Increase Act of 1996. That act expanded pension coverage in several ways. It created a new 401(k)-type plan for small businesses, with a simple, short form intended to make it easier for small businesses to provide their workers with pensions. It made it easier for employers to let new employees participate in 401(k) plans immediately. It required State and local government retirement savings plans to be held in trust so that employees do not lose their savings if the government declares bankruptcy. It expanded access to 401(k)-type plans to employees of nonprofit organizations and Indian tribes. And it promoted portability for veterans by allowing reemployed veterans and their employers to make up for pension contributions lost during active service.

More recently, the Administration has proposed a number of initiatives to address concerns about women's pension arrangements. One proposal would allow time taken under the Family and Medical Leave Act to count toward eligibility and vesting. For some workers such a provision could make the difference between receiving or not receiving credit toward minimum pension vesting requirements for an entire year of work (a minimum amount of work is required in a given year for it to count toward the vesting period). Another would address the needs of widows by requiring

Box 4-7.—*continued*

employers to offer an option that pays a survivor benefit to the nonemployee spouse equal to at least 75 percent of the benefit the couple received while both were alive, in exchange for a smaller benefit while both are alive. This option would give the surviving nonemployee spouse the security of a larger benefit than otherwise, which may better reflect the cost of living for one person compared with two. This would improve the protection provided by the Retirement Equity Act of 1984, which requires that pensions be paid in the form of a joint life annuity in which the surviving nonemployee spouse receives at least 50 percent of the benefit received while both spouses were living, unless the retiree's spouse signs a consent to have the pension paid in some other form, such as a lump sum or a single life annuity.

individuals with the same contributions, although their return is also more certain. At least partly because they have lower incomes and less wealth on average, blacks and women make more conservative investment choices, and consequently would tend to accumulate even less in a DC plan that provides for employee-directed investments, compared with white men, than their lower contributions alone can account for. They also are more likely to cash out their lump-sum distributions when changing jobs.

It is important to distinguish risk aversion based on lower income and wealth from risk aversion based on lack of knowledge and investment experience. Those who have fewer resources to cushion potential losses cannot afford to take as much risk as those with more to spare. This is a perfectly sound reason for avoiding risk. However, if lower income groups are choosing assets with less risk and correspondingly lower expected yields out of lack of knowledge, or because they misperceive the amount of risk involved in higher yielding assets, the policy implications are different. Of course, income, wealth, education, experience with investments, and knowledge of investment principles are correlated with each other. Women also may have less knowledge of investments because husbands have traditionally taken care of these financial matters for the family, although this is no doubt changing as family structure and roles within the family change. There is an urgent need to educate all workers about investments so that, if they are managing 401(k) investments, they have a better chance of achieving their retirement income goals.

Depending on what happens to coverage and participation rates and to average contributions and rates of return, the DC "revolution" could either increase or reduce the average pension income of older Americans. But the movement toward DC plans could result in greater

inequality among retirees who have the same job tenure. Under a DB plan that bases benefits on pay and years of service and is not integrated with Social Security (as explained in Box 4-4), the pensions of workers with the same years of service will differ only in proportion to their pay. Under a DC plan, however, their pensions will differ according to the difference in investment returns (compounded) as well as in proportion to pay. If the difference in returns is positively correlated with pay, the inequality of retirement income will be magnified. Moreover, contribution rates may be more unequal in 401(k) plans, because they are partly or wholly chosen by the employee (subject to certain rules and dollar limits, which may be especially restrictive for higher paid employees). In most DB plans, benefit levels are determined by the employer (also subject to certain rules and limits).

It is difficult to predict the effect of the shift from DB to DC plans on the average pension incomes of women and minorities relative to white men. Because women earn less on average than men, and minorities earn less than whites, the pensions of women and minorities are smaller on average under either type of plan. The evidence is that, for people aged 51-61 in 1992, the male-female differential in accumulated pension wealth from *all* jobs was smaller in DC than in DB plans, even though the male-female differential in accumulated pension wealth on the *current* job was greater in DC plans (Table 4-2). These data on pension wealth do not, however, control for possible differences in earnings, job turnover, and tenure between participants in DC and DB plans.

One might expect gender and racial gaps to be greater in DC plans at a given date on the workers' *current* jobs because white men tend to have longer job tenure than women and blacks. In DC plans, pension benefits grow exponentially with tenure, because the contributions earn a compound rate of return, whereas in most DB plans benefits increase only proportionally with years of service and salary (unless benefits are integrated with Social Security). A dollar invested each year at 4 percent annual interest is worth $12.48 after 10 years and $30.97 after 20 years. Therefore, at a given date, a worker who has been in a DC plan for 20 years will have 2.48 times the accumulation of a worker who has been in the plan for only 10 years, even if they made exactly the same contribution to their accounts in each year they participated in the plan. In most DB plans that are not integrated with Social Security, the worker who separates after 20 years of service would receive only twice the benefit of an equally paid worker who separates at the same time after 10 years of service.

However, when pension wealth from *all* jobs is considered, the gender and racial gaps may be *smaller* in DC plans because they do not penalize job turnover and intermittent labor force participation as much as DB plans do. This depends crucially, however, on whether the DC funds are left to grow rather than withdrawn and spent when jobs

TABLE 4-2.—*Gender Differences in Pension Wealth, 1992*

Kind of pension plan	Percent with pension wealth		Ratio of male to female median individual pension wealth
	Women	Men	
From all jobs during lifetime:[1]			
Defined-benefit	31	54	2.2
Defined-contribution	28	38	1.7
On current job only:[2]			
Defined-benefit only	31	30	1.3
Defined-contribution only	22	21	2.7
Both	16	24	2.1

[1] Self-reported for all lifetime jobs, all nonretired non-self-employed respondents aged 51-61 in 1992 who worked since 1982.

[2] Pension providers' administrative records for current job only, currently employed respondents aged 51-61 in 1992.

Source: Health and Retirement Survey, Wave 1. For lifetime jobs data, custom tabulations by Marjorie Honig, October 1998; for current job data, Richard W. Johnson et al, Gender Differences in Pension Wealth: Estimates Using Provider Data, unpublished paper, August 1998.

end. And as we have seen, many recipients of lump-sum payments do spend them rather than roll them over.

DB plans provide benefits in the form of an annuity, which guarantees an income for life, unless the plan provides, and the participant elects, a lump-sum payment option. The optional forms of annuity and lump sum are calculated using a uniform mortality table for all races and both sexes combined, so that participants do not receive different monthly benefits simply because of their race or sex. However, whites (and Hispanics) and women have longer remaining life expectancies at age 55 than blacks and men, respectively, and so receive the stream of benefits over a longer period of time, on average.

The accumulation in a DC plan, on the other hand, does not depend on life expectancy. But participants in DC plans cannot assure themselves a guaranteed income for life, unless their plan provides a group annuity option or they purchase an annuity on their own. DC plans thus pose the risk that the beneficiary will outlive his or her savings. The private market for annuities is subject to adverse selection, in that those who expect to live a long time are more likely to purchase annuities, and this drives up their price. This works to the disadvantage of women in DC plans, since they are more likely than men to live long enough to run out of money if they do not have an annuity.

Finally, market forces may cause wages to adjust to differences in employers' pension costs, so that workers who get more deferred pension compensation in one type of plan may "pay" for this benefit in the form of lower wages, or their wages may grow more slowly with time on the job. All of these considerations leave it an open question

whether minorities and women are likely to be better off relative to white men in DB or DC pension plans.

Consumption

The economic status of the elderly is ultimately measured by the standard of living that they enjoy. Elderly households typically spend less on consumption than younger households (Table 4-3), in part because the average elderly household has fewer people. But the three largest expenditure categories for elderly households are the same as those for younger ones, namely, housing, transportation, and food. As is well known, health care accounts for a greater share of expenditure for elderly households than for younger ones: 11.7 percent versus 4.2 percent.

TABLE 4-3.—*Consumption Patterns of Elderly and Nonelderly Households by Age of Household Head, 1997*

Item	Percent of total expenditures		
	All households	Head under 65	Head 65 and over
Housing	32.4	32.3	33.1
Transportation	18.5	19.0	15.6
Food	13.8	13.7	14.3
Personal insurance and pensions	9.3	10.2	3.9
Health care	5.3	4.2	11.7
Entertainment	5.2	5.3	4.5
Apparel and services	5.0	5.1	4.3
Cash contributions	2.9	2.4	5.4
Miscellaneous	2.4	2.4	2.5
Education	1.6	1.8	.6
Personal care products and services	1.5	1.5	1.8
Alcoholic beverages	.9	.9	.8
Tobacco and smoking	.8	.8	.6
Reading	.5	.4	.7
AVERAGE DOLLAR EXPENDITURES	$34,819	$37,543	$24,413

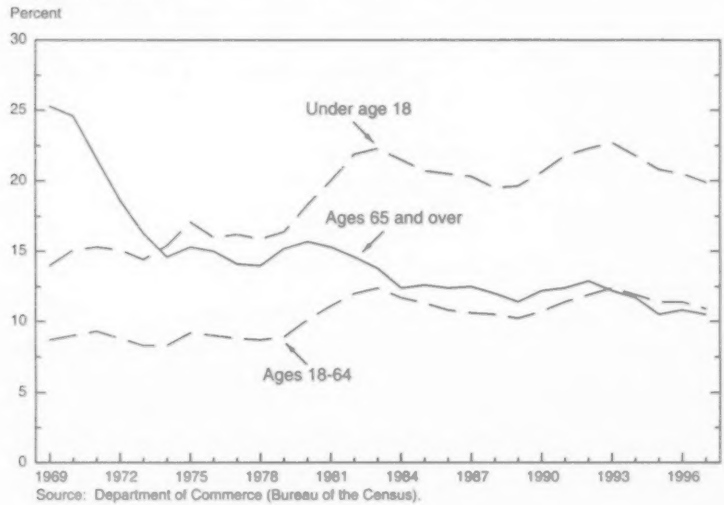
Source: Department of Labor (Bureau of Labor Statistics).

POVERTY

The reductions in poverty among the elderly in recent decades have been remarkable: in 1970, 25 percent of all persons over 65 were living in poverty, but in 1997 only 11 percent were poor (Chart 4-12). Much of this improvement occurred in the early 1970s, in part because of double-digit percentage increases in Social Security benefits enacted in 1971, 1972, and 1973. But progress has been made since then as well: elderly poverty has fallen by 28 percent in the last 15 years alone, and since 1993 it has declined by 14 percent.

Many elderly people, however, live just above or just below the poverty line; relatively small changes in their income could move them

Chart 4-12 **Poverty Rate by Age Group**
Poverty among the elderly has declined dramatically, from 25 percent in 1969 to 11 percent in 1997.



Source: Department of Commerce (Bureau of the Census).

into or out of poverty. In 1997, 6.4 percent of the elderly were "near poor"; that is, their before-tax money income placed them above the poverty line but below 125 percent of that line. Another 5.9 percent had incomes below, but at least 75 percent of, the poverty threshold.

The decline in poverty among the elderly has been experienced across demographic groups: men and women, whites and blacks, younger as well as older elderly persons, and married as well as single persons (Table 4-4). In particular, poverty among black elderly persons has fallen from 48.0 percent to 26.0 percent since 1970, while the rate for whites has fallen from 22.6 percent to 9.0 percent. And poverty among widows has been reduced by half during the same period, with a decline of almost 3 percentage points between 1993 and 1997.

At the same time, Table 4-4 highlights the tremendous variation in the income status of the elderly, and the fact that poverty remains high for several groups. Poverty rates for elderly women are nearly twice as high as those for elderly men, and 72 percent of all elderly living in poverty are women (Table 4-5). Widows, who account for roughly half of all elderly women, have an especially high rate of poverty, at 17.9 percent. The President has proposed to address this problem as part of the ongoing discussions to save Social Security.

Identifying the Needy Population

Who are the elderly living in poverty? The majority of impoverished elderly are single—either widowed, divorced, or never married

TABLE 4-4.—*Poverty Rates Among the Elderly for Various Demographic Groups*
[Percent]

Year	Men	Women	Whites	Blacks	Widows	Ages 65-79	Ages 80 and over
1970	19.0	28.4	22.6	48.0	36.8	23.0	31.1
1980	11.0	19.1	13.6	38.1	25.1	14.2	22.6
1990	7.6	15.4	10.1	33.8	21.4	10.5	18.6
1993	7.9	15.2	10.7	28.0	20.7	10.7	17.7
1997	7.0	13.1	9.0	26.0	17.9	9.7	13.4

Source: Council of Economic Advisers tabulations of March Current Population Survey data.

(Table 4-5). Just over half (51 percent) are widows or widowers. Seventy-two percent of the elderly poor are women, compared with only 56 percent of the nonpoor elderly. Although elderly persons from minority groups are more likely to be in poverty than elderly whites, whites account for two-thirds of the elderly poor. Finally, as shown in Table 4-4, poverty is more widespread among the oldest old than among younger elderly persons. However, only 13.7 percent of all elderly persons in poverty are 85 or older (Table 4-5).

Alternative Measures of Income and Poverty

The income measure above can be broadened to include other factors that affect well-being, including taxes, noncash benefits (such as food stamps), and the imputed amount that would have to be paid if homeowners rented their home. If all of these factors are

TABLE 4-5.—*Sociodemographic Characteristics of the Poor and Nonpoor Elderly Population, 1997*
[Percent]

Characteristic	Elderly in poverty	Elderly not in poverty
Age		
65-74	48.6	56.6
75-84	37.7	34.9
85 and over	13.7	8.6
Female	71.8	56.2
Marital status		
Married/separated	28.1	59.9
Widowed	51.2	30.3
Divorced	12.3	6.0
Never married	8.5	3.8
Race/ethnicity		
Non-Hispanic white	67.2	88.6
Non-Hispanic black	21.0	7.0
Hispanic	11.7	4.4

Source: Council of Economic Advisers tabulations of March 1998 Current Population Survey data.

included, the elderly appear to be in better shape than if these factors are excluded. Average before-tax income for all households headed by someone 65 or older was $31,269 in 1997. Adding net capital gains ($1,116, on average) and subtracting taxes ($4,033, on average) leads to average after-tax income of $28,352. Adding in noncash government transfers ($153), imputed rent ($4,274), and employer-provided health insurance ($321) increases the value to $33,100. Benefits that are not included in this calculation are the values of Medicare and Medicaid, which are substantial but difficult to determine. These calculations demonstrate that a broader accounting of income available for consumption suggests that before-tax cash income underestimates monetary well-being by an average of a minimum of $1,831 (because Medicare and Medicaid are not valued), or 5.5 percent.

As described earlier, an alternative measure of well-being is consumption, or how much people spend on goods and services. It has been shown that the trends in "income poverty" and "consumption poverty" are similar: consumption poverty among the elderly was 84 percent higher, and income poverty 70 percent higher, in 1972-73 than in 1988.

WEALTH

Wealth holdings allow families to maintain consumption when earnings and income are low. Wealth includes financial assets such as savings accounts, stocks, bonds, and mutual funds, as well as nonfinancial assets such as homes, vehicles, and businesses. Table 4-6 reports the share of families holding each of these types of assets and, for those holding that asset, its median value as of 1995.

The vast majority of the elderly—over 90 percent—have at least some assets. Among elderly families holding financial assets, the median value in 1995 was roughly $20,000. Median values of nonfinancial assets varied by age: elderly families headed by 65- to 74-year-olds had greater median nonfinancial assets ($93,500) than did those whose head was 75 or older ($79,000); the family home was the most important nonfinancial asset across age groups. Financial wealth is commonly held in the form of retirement accounts: 35 percent of families headed by a 65- to 74-year-old held such an account, with a median balance of $28,500. In 1995 fewer than 15 percent of elderly families held mutual funds outside retirement accounts, although those who did have accounts had substantial holdings, on average.

Wealth holdings among the elderly vary enormously (Table 4-7). In 1994, 10 percent of all households with a member aged 70 or older had $162 or less in total wealth (in 1996 dollars), and at least that many had no financial assets at all. Another 20 percent had no more than $541 in financial assets and less than $30,311 in total wealth. At the same time, 10 percent had at least $415,622 in total wealth, with at least $175,341 in financial assets.

TABLE 4-6.—*Family Holdings of Financial and Nonfinancial Assets, by Age of Head of Family, 1995*

Type of asset	Percent of families holding assets			Median value among holders (thousands of dollars)		
	All families	Age of head		All families	Age of head	
		65-74	75 and over		65-74	75 and over
FINANCIAL ASSETS	90.8	92.0	93.8	13.0	19.1	20.9
Transaction accounts	87.1	91.1	93.0	2.1	3.0	5.0
Certificates of deposit	14.1	23.9	34.1	10.0	17.0	11.0
Savings bonds	22.9	17.0	15.3	1.0	1.5	4.0
Bonds	3.0	5.1	7.0	26.2	58.0	40.0
Stocks	15.3	18.0	21.3	8.0	15.0	25.0
Mutual funds	12.0	13.7	10.4	19.0	50.0	50.0
Retirement accounts	43.0	35.0	16.5	15.6	28.5	17.5
Life insurance	31.4	37.0	35.1	5.0	5.0	5.0
Other managed	3.8	5.6	5.7	30.0	26.0	100.0
Other financial	11.0	10.4	5.3	3.0	9.0	35.0
NONFINANCIAL ASSETS	91.1	92.5	90.2	83.0	93.5	79.0
Vehicles	84.2	82.0	72.8	10.0	8.0	5.3
Primary residence	64.7	79.0	73.0	90.0	80.0	80.0
Investment real estate	17.5	26.5	16.6	50.0	55.0	20.0
Business	11.0	7.9	3.8	41.0	100.0	30.0
Other	9.0	8.9	5.4	10.0	16.0	15.0

Source: 1995 Survey of Consumer Finances.

The 1998 *Economic Report of the President* described in detail the gaps in earnings and income between races and ethnic groups. However, these disparities are small relative to the differences in wealth. The median household income of elderly whites is about twice that of elderly blacks and Hispanics, but the comparable ratio for wealth is about five to one. Gaps in holdings of financial assets are even wider. In fact, as Chart 4-13 shows, median financial wealth for households with a member 70 or older is zero for blacks and Hispanics. This means that over half of the members of these groups have no financial assets at all; the only wealth they have consists of their home or other physical assets. This result holds for those approaching retirement age as well: over half of households that contained a black or Hispanic person aged 51-61 had no financial assets in 1992.

In sum, a large share of the elderly have very little wealth, and what wealth they do have is mostly in the form of housing and other illiquid assets, not financial assets. At the same time, a significant share of elderly people have quite large wealth holdings, including ample financial assets.

ARE OLDER WORKERS SAVING ENOUGH FOR RETIREMENT?

One reason why it is important to know the level of wealth holdings of older persons is to determine whether they will have enough resources in retirement. Answering this question is difficult for a

TABLE 4-7.— *Total and Financial Wealth of Households by Percentiles*
[1996 dollars]

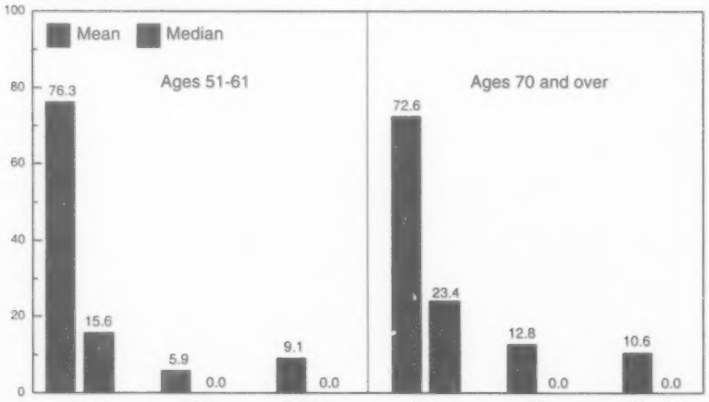
Percentile	With member aged 51-61[1]		With member aged 70 and over[2]	
	Total	Financial	Total	Financial
10	1,115	-1,338	162	0
30	45,705	1,115	30,311	541
50	111,809	15,607	84,206	8,659
70	222,950	55,738	166,682	41,995
90	585,690	208,459	415,622	175,341
95	964,259	367,868	669,974	313,882
Mean	269,946	81,779	177,678	65,116

[1] Data are for 1992.
[2] Data are for 1994.

Note. Total wealth includes equity held in homes, value of business and other tangible assets, and a detailed list of financial assets.

Source: James P. Smith, The Changing Economic Circumstances of the Elderly: Income, Wealth, and Social Security, Center for Policy Research, Syracuse University, 1997.

Chart 4-13 **Household Financial Wealth by Race and Ethnicity**
Among older Americans, financial wealth is much higher for whites than for blacks or Hispanics. Over 50 percent of blacks and Hispanics have no financial wealth.



Note: Data are for households with a member of the given age. Data for ages 51-61 are for 1992 and data for ages 70 and older are for 1994.
Source: James P. Smith, "The Changing Economic Circumstances of the Elderly: Income, Wealth, and Social Security," Center for Policy Research, Syracuse University, 1997.

variety of reasons, including the fact that life expectancy, future interest rates, streams of income, and needs during retirement are highly uncertain. Moreover, to address this question one must first define what one means by "enough." Recent studies have defined "enough" as the amount of resources that preretirees need to maintain their current standard of living throughout retirement. These studies take into account the fact that the postretirement income needed to maintain the preretirement standard of living is smaller than the amount needed prior to retirement.

There is evidence that a significant share of the population approaching retirement are not saving enough to maintain their preretirement standard of living. It has been found that persons aged 51-61 in 1992 who have household earnings of $30,000 (the median) would need to save 18 percent of their income in the years remaining until retirement, if they wish to retire at age 62 and maintain their preretirement consumption levels throughout retirement. This 18 percent is above and beyond the household's automatic contributions to Social Security and pensions. Postponing retirement to age 65 reduces the necessary saving rate to 7 percent. Typical actual saving rates for persons approaching retirement have been estimated at 2 to 5 percent.

These estimates mask substantial variation within the population approaching retirement. It has been found that roughly 70 percent of households with persons aged 51-61 need to add to their savings, above and beyond their automatic contributions to Social Security and pensions, in order to retire at age 62 and maintain their standard of living; this estimate decreases to 60 percent if retirement is postponed to age 65. But by the same token, roughly one-third do not need to add to their savings to maintain consumption throughout retirement. Not surprisingly, the saving rate necessary to maintain the preretirement standard of living is substantially higher for households with less wealth. Finally, although several theories have been advanced to explain why so many people have a saving sh rtfall, the available empirical evidence is not conclusive.

To help Americans save enough to enjoy a more secure retirement, the President has proposed to reserve about 12 percent of the projected unified budget surpluses over the next 15 years—averaging about $35 billion a year—to establish new Universal Savings Accounts (USAs). Under the proposed plan, the government would provide a flat tax credit for Americans to put into their USA accounts and additional tax credits to match a portion of each extra dollar that a person voluntarily puts into his or her USA account. This plan would provide more help for low-income workers. These accounts will build on the current private sector pension system to enable working Americans to build wealth to meet their retirement needs.

CHAPTER 5

Regulation and Innovation

BECAUSE INNOVATION—the development and adoption of new technology—is essential to U.S. economic performance over time, regulation that interferes with innovation, however justifiable on other grounds, comes at a cost. Therefore, in such areas as competition policy, environmental regulation, and electric power restructuring, the Administration has worked to ensure that regulation not only does not interfere with innovation, but indeed fosters beneficial technological change and adapts itself to such change as well.

Appropriately designed regulation can achieve desirable outcomes that unconstrained commercial activity would not produce. Historically, regulation in the United States has been selectively applied both to certain types of undesirable economic behavior and to certain effects of that behavior. Antitrust laws, for example, promote competition and prohibit anticompetitive actions that interfere with market performance. Industry-specific economic regulation has traditionally constrained the exercise of market power by natural monopolies such as telephone companies and electric utilities. Environmental regulation, for its part, has targeted the side effects of economic activity on the health of people and of the environment.

Although regulation, when wisely applied, can prevent economic harm and protect economic benefits, real productivity gains over time depend on innovation—on the steady flow of new ideas, products, and processes. Over the past 50 years, more than half of all productivity gains in the U.S economy, as measured by output per labor hour, have come from innovation and technical change. Innovation thus boosts all sectors of the economy; it is important for agriculture just as it is for semiconductors. Those industries that fall under the rubric of high technology–including aerospace, telecommunications, biotechnology, and computers–provide particularly dramatic examples of growth through innovation: their combined share of manufacturing output has increased by more than half since 1980. Indeed, high-technology products have become an increasingly important part of everyday life for American consumers. The spread of Internet use in the past 6 years, from a few specialized applications to a routine tool for tens of millions of Americans, is one notable illustration. But it is through innovative effort economy-wide, both public and private, that the United States has succeeded in strengthening its position as the world leader in research and development (R&D; Box 5-1). To take just one measure,

the number of patents granted in the United States grew to more than 140,000 in 1998, after passing the 100,000 mark for the first time in 1994.

Given the economic importance of innovation, public policy can achieve greater good when it extends its perspective beyond the immediate goals of particular regulatory programs and takes into account the effects of regulation on the development and adoption of new technology. This chapter first addresses how U.S. antitrust policy, beyond its conventional focus on the price and output benefits of competition, has

Box 5-1.—The Scope of Government Support of R&D

The Federal Government supports innovative activity in both direct and indirect ways. And it does so in no small measure: data from 1997 show that U.S. Government agencies provide about 30 percent of all funds spent on R&D in the United States. The government's share of funds for basic research (research that advances scientific knowledge but has no immediate commercial objectives) is higher still, at about 57 percent. The National Institutes of Health (NIH), for example, are a principal source of funding for biomedical research. NIH programs provide resources for such projects as AIDS/HIV treatment, cancer research, and the Human Genome Project. The government has also taken a direct role in R&D and scientific education through the National Science Foundation and other agencies such as the Department of Energy, which oversees the large complex of Federal laboratories. Federally funded research has been responsible for major developments in space technology, defense systems, energy, medicine, and agriculture, to list just a sample. Federal agencies face the continuous challenge of matching their missions to the technological needs of an evolving world.

Industry provides most of the remaining 70 percent of R&D funding in the United States. Indeed, its proportion has grown steadily in the past decade, to about two-thirds of the total. But government plays a role—an indirect one—in this effort as well, for example through tax incentives that encourage innovation. The research and experimentation tax credit, which allows firms to reduce their tax obligations by 20 percent of qualifying R&D expenditure, was recently extended until June 1999. The government also supports basic research that underlies many applied advances in private industry, and it engages in partnerships with institutions such as universities to share the risk of long-term R&D efforts that have the potential to create widespread benefits.

THE PAPER AND INK USED IN THE ORIGINAL PUBLICATION MAY AFFECT THE QUALITY OF THE MICROFORM EDITION.

incorporated consideration of the long-run benefits of innovation. The chapter then examines how alternative ways of implementing environmental regulation affect the innovation and diffusion of new technology. Finally, the restructuring of the electric power industry is presented as an illustration of how technological change affects the desired form of regulation, and how regulatory changes in turn affect the pace and direction of new technological and market developments.

COMPETITION POLICY AND INNOVATION

Innovation makes enormous contributions to the Nation's economic growth, not just in the large and growing high-technology sector but across all sectors of the economy. The impact of new technologies goes beyond expanding the range of choices for consumers and lowering prices; often, new ideas have significant consequences for the very structure and performance of markets. In turn, one firm's competitive strategy and market behavior can affect the incentive and the ability of all firms in an industry to produce innovative goods and services, sometimes for the worse. The reciprocal effects of technological innovation on markets, and of markets on innovation, pose ongoing challenges for antitrust policy. The antitrust authorities have not shied from these challenges: 1998 saw the continued application of the antitrust laws in technologically complex industries, and renewed attention to the economic benefits of innovation in assessing the health of these vital markets.

MERGER REVIEW AND INNOVATION

Corporate merger activity continues at a swift pace: in fiscal 1998 over 4,000 merger notifications were filed with the Antitrust Division of the Justice Department and the Federal Trade Commission, the two Federal agencies concerned with antitrust. About 7,000 additional mergers were valued at less than $10 million, the level at which premerger notification is required. The total value of all mergers in 1998 is estimated at over $1.6 trillion. The scope of merger activity in 1998 is comparable, depending on the measure used, to that experienced at the turn of the century and in the late 1980s. Although, as in other years, most of these mergers were small, the recent wave of economic consolidation has been distinguished by the number of very large mergers and by the number of mergers in such highly innovative sectors as telecommunications, aerospace, and biotechnology. These transactions, in addition to simply creating bigger firms, sometimes create measurably more concentrated markets. Given the importance of these advanced industrial sectors for future growth, a pressing question for antitrust authorities has been how such changes in market concentration and firm size affect innovative activity.

The United States has a decades-long history of enforcing its antitrust laws to ensure that mergers, acquisitions, and other structural changes in firms and markets do not unduly empower the resulting enterprises to raise prices or restrict output. The use of antitrust policy as a framework for preserving and encouraging innovation, however, is a more recent development, on which there is less consensus. The relationship between an industry's market structure and the amount of innovative activity in that industry may differ from the relationship between market concentration and short-term price competition, the conventional focus of antitrust. Whereas concentration nearly always weakens price competition, its effects on innovation are less clear-cut. Antitrust authorities investigating today's mergers thus confront a difficult task: they must not only assess the likely effects of consolidation on prices and output in the relevant product market, but also account for a merger's potential impact on innovation and the benefits it promises to consumers in the long run.

DO BIGGER FIRMS HELP OR HURT INNOVATION?

Several recent mergers are notable for their sheer size. In the last few years the financial services, telecommunications, and petroleum industries have all seen mergers or proposed mergers valued in the tens of billions of dollars. Antitrust policy in the United States does not, however, generally treat firm size per se as important for determining the strength of competition. Market share, which does not necessarily correlate with size, is understood to be the more relevant determinant of whether prices and quantities are set competitively.

There has been greater debate, however, about the relevance of firm size for *innovation*. Indeed, one could make perhaps as strong a theoretical case that bigness is good for innovation as that it is bad or indifferent. Some commentators, following the economist Joseph Schumpeter, have praised large enterprises for their superior ability to attract the financial and human capital, bear the risk, and recoup the investment required for sustained research and development (R&D) activities. Small firms, on the other hand, have been touted as more creative and more nimble in adapting to changes and opportunities than their larger, more bureaucratic counterparts.

Empirical studies have consistently found that big enterprises are more likely than small ones to undertake at least some R&D. In addition, among those firms that do undertake R&D, bigger firms tend to make larger R&D investments. Beyond a threshold level of size, however, it is less evident that larger firms' R&D investments are *proportionately* greater than those made by smaller firms. Most recent research supports the consensus view that, in general, R&D rises only proportionately with firm size.

Data matching R&D investment with the number of patents generated have shown that smaller firms produce more innovations per

R&D dollar than do large firms. But these results do not necessarily imply that large firms are less desirable from an innovation standpoint. First, not all patents are equivalent in value, and not all successful R&D is patented. So simply counting patents is an imperfect measure of innovative productivity.

Second, there may be diminishing returns to R&D. Big firms, because of their greater resources and ability to diversify, may simply be more willing to risk investing in projects that appear to have less prospect of success. Some of these projects do succeed, making discoveries that smaller firms might have missed.

Finally, large firms may earn higher returns on their R&D than small ones because they can deploy innovations across a broader array of products, or take advantage of process cost savings over a larger production volume. This may explain why large firms continue to invest in R&D even after their proportionate patent yield drops below that of smaller firms.

In short, although available data and research do call into question the conjecture that large firms are superior innovators, they do not necessarily support the contrary view that large firms are bad for technological progress and economic growth. The evidence suggests that the large firms created by some recent mergers will have no special tendency—but likewise no special reluctance—to engage in innovation.

MARKET CONCENTRATION, COMPETITION, AND INNOVATION

The focus on market share in U.S. competition policy fits logically with antitrust's basic premise that economic performance improves with competition. Of course, exception is made for industries that are natural monopolies, in which costs per unit of output decline as a firm's production increases, to the point that it is most efficient to have just one firm produce all output. In such markets, which historically have included railroads, electric power, and telecommunications, monopoly may actually be better for consumers, so long as the monopolist can be prevented from abusing its power to raise prices or stifle innovation by potential competitors. Competition in such cases would require wasteful duplication of facilities—parallel sets of railroad tracks, or duplicate sets of wires connecting houses to the electric power grid or the telephone network. For this reason natural monopolies have generally been allowed to operate but subjected to strict regulation. In most industries, however, economic theory and antitrust policy have long seen more rather than less competition as best serving the purpose of lowering prices, expanding output, and making consumers better off.

The presumption in favor of greater competition becomes less universal when the policy goal is not just lower prices for a given set of goods produced under a fixed set of technologies, but also the preservation of efficient innovative activity by firms over time. As a theoretical

matter, depending on various conditions, either monopoly power or competition may yield the greater amount of innovation. On the one hand, rivalry over market share gives competitive firms an incentive to develop new products and processes that will help them improve or defend their market position. On the other hand, competitive firms face greater risk in their investments in innovation than do those with market power. Even if a firm does make a potentially profitable discovery, and even if it can establish intellectual property rights over that discovery that give it a temporary monopoly, rivals may soon develop similar or better advances that diminish or negate its value. The risk that a competing firm's successful innovations will trump one's own grows with the number of competitors, and the expected return to innovation may fall to the point where it does not justify the cost.

Firms in competition also face more-binding financial constraints. A monopolist or other firm with market power probably has, or can raise, more cash for R&D and has a better chance of recouping its R&D investment. Large, established firms might be particularly adept at marshaling resources for incremental innovation or for helping to bring a small firm's invention to market.

Even a monopolist—especially an unregulated one—has an incentive to engage in cost-reducing innovations. But because a monopolist already has the market share for which competitive firms strive, it may have less incentive to pursue product innovations and improvements than do firms facing competition. Further, a monopolist will have an incentive to innovate strategically to protect its monopoly by excluding rivals and by avoiding cannibalization of its existing business. This may lead it to delay implementation of those innovations it does develop. A monopolist might therefore be a qualitatively inferior innovator from the perspective of consumers and overall economic welfare. A dominant firm may also have an incentive to deter others from engaging in innovative activity that threatens its market power. The result could be a shift in the industry-wide pattern of innovation that makes everyone except the dominant firm worse off.

The findings of empirical studies do not resolve this ambiguous theoretical relationship between competition and innovation. Some studies find innovation to be most intense among firms in oligopoly markets that provide a mix of competitive incentives and above-competitive returns. Other studies find no such correlation. To the extent there is consensus, it is that neither the presence of many competitors nor pure monopoly correlates systematically with optimal levels of innovation. But even in such polar cases, predictions about R&D activity are hard to make. The determination requires looking at the facts in each case, because market factors other than concentration, as well as a firm's regulatory status and the nature of its products and technologies, also affect innovation.

In some industries, fierce competition yields substantial R&D: dozens of firms today are racing to develop new antiobesity drugs, for example. But monopolies can be energetic innovators, too: during AT&T's decades of dominance of the telecommunications industry, its Bell Laboratories research arm developed a steady stream of new technologies. In each case factors independent of market structure made the difference. The market for antiobesity drugs is new, the rewards for successful R&D are huge—future sales could reach an estimated $5 billion per year—and the efficient level of R&D investment could be quite high. In the case of AT&T, although innovation in telecommunications might have been greater under competition, consumer demand for increased capabilities in the telephone system, opportunities to enter new markets, and the guarantee of steady, regulated returns that could help fund risky R&D made complacency undesirable even for an established monopolist.

In addressing innovation, antitrust policy must therefore temper the strong presumption in favor of competition that applies in conventional analysis of short-run price and output levels. Although more rivalry rather than less will often remain the rule of thumb, enforcement authorities cannot as confidently presume as a matter of economic theory that more competition is good or that market power is bad for R&D. When the overall level and the future path of innovation are at issue, case-by-case analysis of the economic facts is likely to be even more vital than in conventional antitrust investigations.

MERGER POLICY IN HIGH-TECHNOLOGY MARKETS

The puzzles posed by the economics of innovation have not deterred the antitrust authorities from investigating how mergers in several U.S. industries would affect the flow of new ideas, products, and processes. They have, however, taken a deliberate, measured approach to their investigations. Recent enforcement decisions have taken into account both the traditional presumptions about competition and the inability to rely on those presumptions when it comes to promoting innovation. But they also reflect careful consideration of the ambiguous effects that firm size and market structure may have on innovation. Thus, although the antitrust authorities have recognized the need for a dynamic perspective on mergers and have not refrained from enforcement based on concerns about innovation, they have brought such actions only where changes in market concentration were extreme and, generally, where other evidence of effects on innovation was present.

Early Cases

One of the first enforcement actions motivated by innovation concerns occurred in 1990, when the Federal Trade Commission (FTC) challenged the acquisition of Genentech, Inc., by the Swiss-based

company Roche Holdings, Ltd. Some of the issues raised in that case were traditional questions about reduction of competition: for example, Roche was on the verge of becoming a major challenger to Genentech's dominant position in the market for products to treat human growth hormone deficiency. But more central to the Commission's complaint was that Roche and Genentech were actual—not just potential—competitors in the development of some other important therapeutic innovations, especially for the treatment of AIDS and HIV infection. Concerns about dynamic effects on the market and on the pace of innovation, not about short-term price or output levels, drove the enforcement decision.

The Justice Department's Antitrust Division first challenged a merger on innovation grounds in 1993, when it investigated the proposed acquisition of General Motors' Allison Transmission Division by ZF Friedrichshafen, a German company. Allison and ZF together produced 85 percent of world output of heavy-duty automatic transmissions for trucks and buses, but they actually competed head to head in only a few geographic markets. The Justice Department nonetheless concluded that even markets whose concentration would be unaffected by the merger would be harmed by the combined company's reduced incentive to develop new designs and products, and it therefore moved to block the transaction.

These two cases differ in important ways, and each establishes a significant precedent for factoring innovation effects into competition policy. In reaching its decision to challenge Roche's acquisition of Genentech, the FTC did not have to predict that the resulting increased concentration in the biotechnology industry would reduce innovation. Rather, the increase in concentration was accompanied by concrete evidence that Roche was at an advanced stage in developing a competing human growth hormone treatment, and that Roche and Genentech were among a small group of companies racing to develop certain AIDS/HIV treatments. The merger would thus have concentrated actual, not merely potential or speculative, R&D efforts.

The Justice Department's action in the ZF/Allison case was in one respect bolder. There was no specific R&D effort that the Antitrust Division found would be compromised by the acquisition. But the decision indicates that where the consolidation is so great as to leave an industry near monopoly and without other potential sources of new developments, potential harm to the "innovation market" could justify challenging the transaction. These two factors—very high levels of concentration and evidence of parallel and competing innovation efforts—have also formed the basis for several recent actions through which the relationship between antitrust and innovation has further developed.

Aerospace

The aerospace industry is one of the most innovative in the United States. Its market is characterized by high concentration but also, outside the defense sector, by international competition. In the past 2 years the FTC has approved one major aerospace merger, and the Justice Department has blocked another. Innovation considerations are central to explaining both these enforcement decisions.

In 1997 the FTC approved the merger of Boeing Co. and McDonnell Douglas Corp., the two largest commercial aircraft manufacturers in the United States. In that case, analysis of innovation in the aerospace industry supported the merger, not because the transaction was expected to increase R&D, but because the analysis showed that McDonnell Douglas had fallen behind technologically and could no longer exert competitive pressure on Boeing or its overseas rivals. Acquisition by Boeing would therefore not reduce competition and would allow McDonnell Douglas' assets to be put to better use by a more technologically advanced enterprise.

Concerns about progress in aerospace innovation led to the opposite conclusion in Lockheed Martin Corp.'s proposed acquisition of Northrop Grumman Corp., first announced in 1997. The Justice Department's challenge to the merger last year noted that Lockheed and Northrop were two of the leading suppliers of aircraft and electronics systems to the U.S. military. The Department concluded that the merger would give Lockheed a monopoly in fiberoptic towed decoys and in systems for airborne early warning radar, electro-optical missile warning, and infrared countermeasures. In addition, the merger would reduce the number of competitors in high-performance fixed-wing military airplanes, on-board radiofrequency countermeasures, and stealth technology from three to two. The agency contended that consolidation in these markets would lead to higher prices, higher costs, and reduced innovation for products and systems required by the U.S. military.

Although traditional competitive concerns about prices were an important part of the challenge to this acquisition, concerns about innovation were central. For example, the Justice Department noted that both Lockheed and Northrop had launched R&D efforts in advanced airborne early warning radar systems, and it concluded that consolidation of the two efforts would harm future military procurement. The Department also found evidence that competition is particularly important for technological advances in high-performance military aircraft. It thus concluded that "competition is vital to maximize both the innovative ideas associated with each military aircraft program, as well as the quality of the processes used to turn innovative ideas into cost-effective, technically sound, and efficiently produced aircraft."

The antitrust authorities' linking of competition to innovation in the Lockheed/Northrop case was a cautious one. Two factors weighed heavily toward blocking the transaction. First, there was evidence that Lockheed and Northrop either were actually conducting competing R&D on relevant products or were the leading contenders to conduct such R&D in the future. Second, there was evidence that their consolidation would lead to either monopoly or substantial dominance in relevant product markets, not just reducing but in large part eliminating competitive pressure. Thus, a combination of market structure and the existence of parallel innovation efforts pointed toward a likely reduction in innovative activity if the merger were consummated.

Biotechnology and Pharmaceuticals

The FTC recently focused on innovation concerns in crafting a consent agreement with two merging firms in the biotechnology and pharmaceuticals industry. In 1996 Ciba-Geigy Ltd. and Sandoz Ltd., two Swiss firms with substantial U.S. operations, announced plans to merge into a new company, to be known as Novartis. The FTC raised several objections to the merger. Some of the objections concerned traditional antitrust matters: the FTC was concerned that the combination would give the merged entity power to reduce competition and raise prices in the market for herbicides used in growing corn and in that for flea-control products for pets. The FTC accordingly ordered that one party divest its businesses in those markets as a condition for its approval. The more novel parts of the Commission's challenge, however, had to do with the prospects for innovation in the market for gene therapy products, which allow treatment of diseases and medical conditions by modifying genes in patients' cells.

At the time of the FTC's investigation, in 1996 and 1997, no gene therapy products were yet on the market; indeed, none had even been approved by the Food and Drug Administration. Conventional antitrust analysis therefore did not apply, because there was no product market in which to analyze the merger's effects on prices and output. The Commission instead adopted a dynamic perspective: looking to the future, it found two reasons for long-run competitive concerns. First, the market for gene therapy products is expected to grow rapidly, with annual sales of $45 billion projected by 2010. Second, Ciba and Sandoz were among a very few firms with the technological capability and rights to intellectual property necessary to develop gene therapy products commercially. Together they would control essential patents, know-how, and proprietary commercial rights without which other firms, even if they did eventually develop gene therapy products, would be unable to commercialize them.

The FTC concluded that "preserving long-run innovation in these circumstances is critical." The Commission did not, however, block the merger. Instead, it crafted a consent decree designed to correct those

aspects of the transaction that raised concerns for current and future competition. As noted, the Commission required divestiture of certain overlapping herbicide and flea-control businesses. More interestingly, the Commission did not require divestiture of either firm's gene therapy division. Instead, Ciba and Sandoz agreed to license technology and patents sufficient to allow one of their rivals to compete against the merged entity in the development of gene therapy products.

The Commission's remedy steered between the potentially conflicting economic effects that a merger can have on R&D. On the one hand, consolidating complementary capabilities can enhance innovation and allow a combination of firms to achieve what the same firms could not have achieved separately. On the other hand, concentrating markets to near-monopoly levels can dampen the pressure to innovate and reduce the enhanced probability of success that comes from multiple R&D efforts. The Commission declined to order either Ciba or Sandoz to divest its gene therapy subsidiary because it found that the R&D efforts of the parent companies and their subsidiaries were closely coordinated, so that divestiture would have been disruptive and counterproductive for innovation. The decision instead to order compulsory licensing to a capable competitor was designed to preserve both market competition and the benefits of the merging parties' relationships with each other and their respective gene therapy subsidiaries.

The market context in this case is significant. Ciba and Sandoz were not merely two of several viable competitors in the relevant market; their merger did not simply change the degree of competition within a middling range of market concentration. Rather, their combination concentrated virtually all innovation capability and essential inputs for the commercialization of gene therapy under one corporate roof. Innovation concerns became sufficient to motivate intervention because the facts showed a combination of monopoly market structure and a reduction in the number of potential innovation efforts. These provided sound economic support for the use of competition policy to preserve the impetus for technological progress. But the FTC's action also broke important new ground: it expressly recognized that a current merger could be challenged on grounds of future innovation and competition in a product market that does not yet—but likely will—exist.

INTELLECTUAL PROPERTY AND ANTITRUST

As the above discussion of merger review demonstrates, the incorporation of innovation concerns into antitrust enforcement often involves intellectual property issues. The purpose of intellectual property protection is to encourage people to bring inventions and other creative works into the marketplace. In so doing it furthers, in the words of the U.S. Constitution, "the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their

respective Writings and Discoveries." To be sure, not all inventors or artists are motivated by economic gain. But in many cases the decision to devote time and resources to risky, innovative projects or to invest in publication will hinge on the ability to profit from success.

Patents in the United States accordingly confer limited rights to exclude others, even those who have come up with the same idea independently, from making, selling, or using a covered invention without the patentholder's consent. Patenting allowed Eli Whitney to capture the profits his cotton gin made possible, just as today it allows an electrical engineer to secure her rights to the returns on an advance in computer technology. Copyright statutes similarly provide protection against unauthorized copying of original works in a variety of media (including electronic media; see Box 5-2), even if the copying is not literal or exact. Only Thelonious Monk (or the record company to which he sold the rights) could freely record "'Round Midnight"; only a software developer (or a manufacturer to which the developer grants a license) has exclusive rights to copy and sell its programs commercially. Finally, trademark laws can be used to protect brand recognition. One restaurant entrepreneur cannot misleadingly use another restaurant's name for his own new business; a new soft drink's label cannot look too much like the market leader's.

On the surface, a tension exists between intellectual property protection and competition policy: one grants exclusive rights that confer a limited, temporary monopoly; the other seeks to keep monopoly at bay. But at a more basic level the two areas of policy have a common goal: to enhance economic performance and consumer welfare. For that reason patents, for example, are extended only to novel, nonobvious, and useful inventions and are limited in duration to 20 years. Copyrights are granted for the life of the author plus 70 years.

Once an innovative product has been developed, efficiency dictates that it be produced competitively. So patents should not provide a greater incentive to invent than is necessary to get the invention into the stream of commerce. The limits on the duration, scope, and availability of patents implicitly balance the benefits of preserving incentives to innovate against the efficiency costs of granting exclusive rights. A similar balance between innovation and competition appears in U.S. antitrust policy, which recognizes that innovation sometimes benefits from cooperation among competitors (Box 5-3). The National Cooperative Research and Production Act, for example, reduces potential antitrust liability for qualifying R&D and production joint ventures. In fiscal 1998, 38 such joint ventures registered with the Department of Justice and the FTC, bringing to over 750 the number of registrations since the statute was passed in 1984.

Similarly, the 1995 Antitrust Guidelines for the Licensing of Intellectual Property acknowledge the exclusivity conferred by intellectual property protection but recognize that patents do not necessarily

Box 5-2.—Electronic Commerce and Digital Copyright Protection

More than 70 million Americans now have access to the Internet, which they use in no small part for commercial activities, including the purchase of music, video, software, text, and other information goods that can now be sent directly from one computer to another. The volume of this electronic commerce exceeded $10 billion in 1998 and is predicted to reach $300 billion within a few years. Electronic commerce provides unprecedented opportunity for firms and individuals to sell and distribute such digital goods widely and quickly. But with these benefits comes risk: the ease with which a recording company can deliver a new song to buyers electronically is matched by that with which buyers can illegally copy and resell it. For electronic commerce to reach its potential, sellers must be sure that their products are legally protected from such piracy.

New copyright legislation has taken steps to protect digital goods and so encourage innovative commercial uses of electronic media. The 1998 Digital Millennium Copyright Act makes it a crime to break the "digital wrappers" that protect electronically encrypted intellectual property, or to sell equipment designed to penetrate such encryption. This increased protection of digital goods will help spur commerce and innovation, but it may also unduly restrict legitimate uses of copyrighted material. For example, the fair use doctrine allows free access to copyrighted works for limited personal, educational, and research purposes that do not compromise the work's commercial value. What has traditionally been prohibited is not access to the copyrighted work, but rather its indiscriminate copying and distribution. An absolute ban on bypassing digital wrappers might allow publishers to impose a per-use fee on publications in digital format. This would block free access to such works and thus erode the fair use principle. The 1998 Digital Millennium Copyright Act attempts to balance the need to preserve commercial incentives with the right to fair use by permitting anyone who cannot get access to materials usually covered by the fair use doctrine to petition the Librarian of Congress for an exemption from the statute.

confer market power and that licensing of intellectual property is generally procompetitive. Licensing and other arrangements for transferring patents or copyrights can help bring complementary factors of production together and thus allow faster and more efficient use of new inventions. This benefits consumers by reducing costs and encouraging the introduction of new products. Under the guidelines, the FTC and

Box 5-3.—Cooperative Innovation and the Y2K Problem

As explained in Chapter 2, many older computer programs encode years using only the last two digits and will not properly interpret "00" as "2000" when the year 2000 arrives. This "year 2000" (Y2K) problem may cause data to be lost and programs and systems to fail worldwide. The risks are particularly acute in industries where different firms' computer systems are highly interdependent. Accordingly, once the extent of the problem was recognized, a number of manufacturing firms and securities firms proposed, through their trade associations, to exchange information among themselves and their computer services suppliers that would expedite resolution of the problem in their industries. Participating firms would share information gathered from manufacturers about efforts to make chips, other hardware, and software compliant with Y2K demands, and would exchange the results of product tests, successful remedies, and information about the sources of various computer products.

The competitive concerns raised by the prospect of such collaboration were multifaceted. For example, securities firms compete with each other not just in the provision of financial services, relevant information for which is stored in each company's computers, but also in the procurement of computer systems. Exchange of information about products and the results of various tests could potentially be used by rivals as a vehicle for fostering and monitoring collusion in both areas of competition. At the same time, computer hardware manufacturers and software developers compete in the development of new products and in innovating around

the Department of Justice balance these benefits case by case against the risk that a particular licensing arrangement could reduce competition in the product market or in the development of new technologies.

For example, in 1997 the Justice Department concluded that an agreement to package certain patents essential for advanced video-compression technology into a single license was permissible because the patents were complements and because the licenses, which would be granted on a nondiscriminatory basis, were unlikely to facilitate collusion or the exercise of market power. But in another action the FTC required recision of an agreement that pooled patents for laser systems used in eye surgery because the partners in the deal were the only independent competitors in the market for that equipment prior to the pooling arrangement. Recently, the Justice Department successfully concluded its 1996 challenge to a license that granted a hospital access to software necessary to repair medical imaging equipment only if the hospital agreed not to compete with the licensor in providing repair

Box 5-3.—*continued*

challenges like the Y2K problem. The proposed information exchange could give these firms competitively valuable details about their rivals' product developments or terms of sale to customers, undermining competition and opening the door for collusion here as well.

Collaboration on the Y2K problem also offered clear benefits, however. A joint effort would avoid duplicative equipment testing and information gathering, allow more efficient identification of successful remedies, and permit faster and more accurate responses to computer system vendors about remaining problems. Manufacturers could devote resources to product improvement that would otherwise have been devoted to exchanging information.

The Justice Department stated in its letters reviewing the proposed collaborations, issued July 1 and August 14, 1998, that it did not foresee grounds for enforcement action, because the proposals contained sufficient safeguards that the benefits of cooperation outweighed the risks to competition. The firms agreed to cooperate without exchanging price or customer information that could be used to restrain competition. And computer manufacturers would receive test information about their own products only, not those of their rivals. Although the Justice Department recognized that the information exchanges could still affect competitive strategy, it concluded that the agreements were unlikely to lessen innovation or pricing rivalry among vendors and offered real prospects for reducing the costs and increasing the speed of a resolution to the Y2K problem.

services to third parties. These cases reflect careful monitoring by the antitrust authorities of the interaction among intellectual property protection, competition, and innovation.

NETWORK COMPETITION AND INNOVATION

Antitrust policy in the United States has devoted substantial attention in the past year to the relationship between competition and innovation in what are today called network industries. Enforcement actions in the credit card and software industries as well as consent decrees in the telecommunications industry have highlighted the challenges enforcement agencies face in balancing long-run encouragement of innovation with short-run concerns about competition.

Networks are a familiar concept to Americans: we are linked to each other by telephone networks, we increasingly shop and obtain information through the web of linked computers we call the Internet, and we confidently slide a card issued by one bank into an automatic teller

machine owned by another. The distinguishing characteristic of network goods is that their value to each consumer increases the more they are used by others. New telephone subscribers add to the number of people that existing subscribers can call; their participation in the network increases the system's value to current and future users. New buyers of a word processing package are more people with whom earlier purchasers can easily exchange documents. This additional value that new users add to network goods is termed a "network externality."

Network benefits are not limited to communications systems or to systems in which communication is an element. A good whose usefulness depends on the existence of complementary products—products used in conjunction with the original good—may likewise increase in value to users as more and more people adopt it. A widely used product may attract greater investment in the provision of complements than one that has few users. In the personal computer industry, for example, software producers typically devote most of their efforts to writing programs that will be compatible with the more widely used hardware platforms and operating systems. (Achieving compatibility sometimes requires reverse engineering of existing products; see Box 5-4). Over time more, better, and cheaper software thus becomes available for more popular machines than for others. Similarly, the best-selling video game platform will attract more game developers, thus reinforcing the advantage of that platform over competitors.

Because of network externalities, a product's popularity can be self-reinforcing: new customers buy the more popular good because of the larger externality, which then grows still further, making the product yet more attractive to additional purchasers. This dynamic sometimes makes network markets "tip" toward monopoly. A network monopoly has benefits for consumers not generally found in conventional markets, because its dominance can maximize the network externality. But network dominance also poses hazards that compound conventional economic concerns about monopoly.

First, the product that becomes the network standard will not necessarily be the most capable, most efficient, or highest-quality product on the market. Because consumers want the good that will offer the largest network externality, expectations about a product's success can be at least as important to their purchase decisions as price and quality. Consumers using products, even superior products, that have lost the competitive battle receive a much smaller network benefit, and may eventually have to incur the costs of switching to the dominant product. These include not only the cost of purchasing the rival product but the cost of learning to use it. By the same token, if an inferior good gets a decisive lead in "installed base" among consumers, their switching costs may be enough to keep them from moving to the superior standard. And new customers may find that the greater network externality available from the leader offsets the price or design advantages of the contender.

Box 5-4.—Reverse Engineering and Compatibility

When competing network products are mutually compatible, consumers benefit from the same network externality regardless of which product they choose. If the value of a word processing package depends on the number of people with whom documents can be shared, then a new entrant can overcome its network disadvantage by enabling its product to exchange files with the leading program. Similarly, if a new game platform can play cartridges designed for rival systems, it gains value from the increased availability of complementary goods. Translation between systems is not always perfect, however, and a dominant firm facing new rivals might try to reestablish its advantage by reintroducing incompatibility in subsequent versions of its software. Nevertheless, cross-compatibility remains an important competitive strategy for entrants into network markets—and is beneficial for consumers.

To achieve compatibility, a competitor may have to "reverse engineer" the rival's product, to learn how to make it work together with its own. For that reason, firms with a market edge might try to protect their products against efforts to establish cross-compatibility by restricting competitors' access to critical interfaces where information is exchanged. One means of doing so is to enforce a copyright on the particular lines of computer code that a rival would have to use to make its product compatible. Courts, however, have been increasingly reluctant to uphold copyright protection for such purely functional aspects of computer programs. A leading producer may instead try to encrypt or otherwise technologically protect the information to which a rival seeking compatibility needs access. The Digital Millennium Copyright Act of 1998 expressly permits software developers to circumvent such protections. It thereby limits the extent to which a program copyright can block competition by noninfringing programs or in markets for complementary software. But to avoid undermining the incentive to develop new software, the act allows circumvention only to the extent necessary to achieve compatibility.

Second, these same switching costs can make network markets particularly hard for new competitors to enter, especially if new products cannot interconnect with those already in the market. This potentially makes network monopolies quite stable and reduces the dominant firm's incentives to introduce innovative products and services. An example is the delay in the marketing of digital subscriber line (DSL) technology for high-speed telecommunications. Although DSL technology has been available since the 1980s, only recently did local telephone

companies begin to offer DSL service to businesses and consumers seeking low-cost options for high-speed telecommunications. The incumbents' decision finally to offer DSL service followed closely the emergence of competitive pressure from cable television networks delivering similar high-speed services, and the entry of new direct competitors attempting to use the local-competition provisions of the Telecommunications Act of 1996 to provide DSL over the incumbents' facilities.

Third, a network monopolist may have advantages in selling complementary goods that allow it to extend its dominance from one market to another. Advantages in complementary markets are not necessarily anticompetitive. The provider of one good may be able to exploit economies of scale and scope that make it a superior provider of the complementary good. But a monopoly provider of one product may also be able to tie or bundle a second product in a way that forecloses competition in the second product market. For example, it may condition sale of the monopoly good on whether the buyer also purchases the complementary good.

The Challenge for Antitrust

In network markets as in others, antitrust law does not condemn monopolies legitimately achieved. Incentives to innovate and compete might diminish if dominance itself, honestly earned, could be second-guessed by enforcement authorities. Instead, what antitrust proscribes is anticompetitive conduct—predatory or exclusionary practices—that creates or maintains monopoly power. The particular challenge of network markets is that, because network effects can accrue rapidly and be costly to reverse, there is a premium on being able to identify and stop anticompetitive activity quickly. Once dominance is acquired, it may be impractical or undesirable to use regulatory or antitrust remedies to undo the outcome, even if an inferior standard prevails or if anticompetitive tactics have been employed. To be sure, antitrust can target unlawful conduct designed to preserve or extend those outcomes. But once customers have adopted a standard, remedies that would reduce the accrued network externality are costly, no matter how dominance was achieved.

Identifying predatory or exclusionary practices early can be difficult in the network context. Competitive strategies that would be inherently suspect in a conventional goods market may be reasonable in network markets, especially when competitors believe, rightly or wrongly, that the winner will take all. For example, pricing below cost is often a telltale sign of predation in conventional markets. But in network markets it may be a matter of competitive necessity to price below cost in order to penetrate the market quickly, gain a lead in installed base, and raise expectations that a product will deliver a large network benefit. Predatory pricing rules in Federal antitrust policy do allow for

transitional circumstances and recognize that prices may not reflect startup costs for new entrants. In applying those rules in network markets, authorities must analyze, on the facts of each case, when aggressive pricing constitutes a legitimate strategy that other competitors would rationally pursue, and when they amount to predatory conduct that forecloses competition.

Similarly, when a network monopolist enters a market for complementary products on terms that make it hard for competitors to succeed, authorities must determine whether the monopolist's advantage stems from genuine efficiencies or from anticompetitive arrangements. Where efficiencies are identified that cannot be achieved in a manner that has less effect on competition, enforcement agencies must balance the welfare gains from those efficiencies against the welfare losses from reduced competition. A good illustration of the problem comes from the days before personal computing. Technological innovations adopted in the 1970s made mainframe computer components sufficiently compact that certain memory devices were for the first time built into the main computer cabinet and hardwired into the central processing unit. IBM Corp., the market leader, thus began to sell computers and memory storage as an integrated unit. Independent manufacturers of IBM-compatible memory devices sued, claiming IBM had leveraged its market power in mainframe computer processors into the more competitive peripherals market. In *California Computer Products v. IBM*, decided in 1979, the U.S. Court of Appeals ruled in IBM's favor after finding on the facts that, in this particular case, integration was an efficient and natural result of beneficial product innovation.

Several very recent enforcement actions demonstrate the complex issues at stake in network competition and show how preserving both the incentive and the opportunity for development of innovative products and services has become an essential concern of competition policy. Among these are actions in the credit card industry and in the markets for Internet software and services.

Credit Cards

As use and acceptance of a particular brand of credit card grow, that card becomes more valuable for both businesses and consumers. This gives rise to a classic network externality, with all the benefits to consumers—and the possible effects on competition and innovation—already described. Concern over competition and innovation among general-purpose credit card networks recently prompted the Department of Justice to file an antitrust suit against the two largest networks, Visa and MasterCard.

The credit card industry operates at two distinct levels. Consumers and merchants are most directly involved in the downstream level, which encompasses card issuance and card acceptance services. The players at that level are banks and other institutions that issue cards

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and compete for customers on the basis of interest rates, annual fees, payment terms, customer service, and various enhancements or usage bonuses. The Justice Department's challenge concerns the industry's second level: the upstream level, encompassing the underlying card networks themselves. These networks provide various services to card issuers: they implement systems and technologies for card use and clearance, develop card products, and promote the card brand. They also set fees for participation in the card network.

The competitive dynamics of these two levels are very different. If numerous institutions can join a network and issue cards, competition at the downstream level—for consumers of card services and merchants requiring acceptance services—will be strong. Competing at the network level, however, is more difficult. Establishing brand name recognition, developing processing and information systems, and building a sufficient base of merchants and card users take enormous amounts of time and money. Either a new entrant at the network level must attract potential issuers from more established systems, or it must enter the market at both levels itself, issuing cards and providing acceptance services as well as providing network services. The difficulty of the undertaking can be surmised from the fact that only one new network, Discover (now Novus), has successfully entered the general-purpose credit card market in the last 30 years.

Visa and MasterCard began as separate, competing networks owned and governed by their card-issuing members. Each eventually accepted the other's members into its network as participating owners. As a result, the two networks now have substantially overlapping ownership and governance. The Justice Department's case focuses primarily on the innovation-reducing consequences of this arrangement. The Department alleges that the corporate governors have stopped both networks from introducing new products and services because improvements in one network, although they would benefit consumers, would largely shift profits from the other network rather than raise overall returns. And with a combined 75 percent share of the credit card market by volume of transactions, the governors face little pressure from competitors to implement new initiatives in the systems jointly.

The Justice Department's complaint specifically identifies innovations that it alleges were delayed by the two networks' overlapping structure. One of these is "smart card" technology: the use of integrated circuits in the cards themselves to store more data, perform a greater array of functions, and better monitor fraud and credit risk. According to the Department, when Visa indicated that it did not want to introduce smart cards, MasterCard's board decided not to continue their development. Whether the decision was anticompetitive or driven by legitimate business judgment about the commercial viability of smart card technology remains to be proved. But whatever the outcome, the

Justice Department's challenge represents an important application of antitrust policy to the particular problems of competition and innovation in network industries.

Telecommunications and the Internet

Network effects have been essential to the structure and regulation of telecommunications. At the beginning of this century communities were often served by competing telephone systems, with AT&T and an alliance of independent companies each taking about half the market. Generally, the competing systems refused to interconnect with each other and exchange traffic, and so a customer could only call people who subscribed to the same network. Eventually, AT&T was able to tip the market in its favor by patenting superior long-distance technology to which subscribers of competing telephone companies were denied access. This gave consumers an incentive to switch to AT&T, and the company grew into a nationwide monopoly.

In 1984 the Federal Government broke up AT&T's integrated monopoly into a long-distance company and seven regional companies providing local telephone service. Each of these seven companies still had a monopoly over the local service network in its region. The Telecommunications Act of 1996, however, opened the door to local telephone competition by requiring the regional monopolies to, among other things, interconnect and exchange traffic with new entrants into the market on nondiscriminatory terms. From the standpoint of network economics, this provision makes entry easier by allowing any new telephone company, no matter how small, to offer consumers the same network benefit as a larger carrier.

Preserving competition has also been a regulatory priority in telecommunications networks other than the telephone system. Internet "backbone" providers transport information between the high-capacity computer networks that make up the Internet. They sell their services to businesses, institutions, and the Internet service providers (ISPs) that offer Internet access directly to consumers. They also negotiate terms for the exchange of traffic with each other to provide the universal connectivity that defines the Internet. When MCI Communications Corp. and WorldCom, Inc., which in addition to their other lines of business were two leading backbone service providers, were merging in 1998, the Justice Department required MCI to divest its Internet backbone business to an independent competitor. Without the divestiture, the merged company would have had substantial control over the transport of Internet traffic, making it more tempting to reduce the services it provided to rival networks with which it exchanged traffic. The Department's enforcement action thus helped preserve competition in the backbone market and ensure that no single company could dominate the "network of networks" that comprises the Internet.

In another part of the Internet market, the Justice Department has challenged what it alleges are anticompetitive practices in the market for browsers, software that consumers use to access the Internet from their computers. All computers have operating systems that control and allocate the hardware resources of the computer and allow it to run various applications programs of the user's choosing, such as word processors and browsers. The necessity for any new operating system to be accompanied by a range of compatible applications creates a barrier to entry into the operating system market. Operating systems are subject to network effects because more programs will be developed to run on the more widely used systems. As more programs are developed to run on a particular operating system, that system becomes yet more popular to consumers. The result is a market for operating systems that has a propensity to tip to a dominant provider. Currently, Microsoft Corp.'s Windows operating system dominates the market for systems that run on IBM-compatible personal computers.

The Justice Department claims, among other charges, that Microsoft has misused its dominance in the market for personal computer operating systems to maintain power in that market and to attempt to gain dominance in the complementary market for browsers. Microsoft, which packages its browser with current versions of Windows, has allegedly required computer manufacturers to agree, as a condition for receiving licenses to install Windows on their products, not to remove Microsoft's browser or to allow the more prominent display of a rival browser. Because consumers demand that manufacturers preload Windows onto new personal computers, manufacturers face heavy costs if they do not accept Microsoft's terms. Similarly, the Department claims that Microsoft has refused to display the icons of ISPs on the main Windows screen or list them in its ISP referral service unless the ISPs agree, in turn, to withhold information about non-Microsoft browsers to their subscribers. The ISPs are also required, the Department alleges, to adopt proprietary standards that make their services work better in conjunction with Microsoft's browser than with others. Microsoft responds that integrating its Internet browser makes its operating system more functional and increases the features and uses of programs written for that operating system, to the ultimate benefit of consumers. The company also claims that the contractual arrangements with ISPs are nothing more than cross-promotional agreements, which are common within the computer industry.

The case against Microsoft reflects an effort by the Justice Department to prevent perpetuation of monopoly by allegedly anticompetitive means, to protect competition in the Internet browser market and to maintain incentives for the development of innovative software by preventing anticompetitive actions against successful products. The challenge for competition policymakers in this context is to preserve competitive opportunities without punishing successful competitors.

At issue is where to draw the line. Is a successful company's use of aggressive tactics legitimate, so that regulation might reduce future innovation incentives and consumer welfare? Or do those tactics cross the line into misuse of market position to engage in predatory or exclusionary conduct that forecloses competition and innovation, to the ultimate detriment of consumers? Striking the right balance is essential for promoting innovation and protecting consumer welfare in the fast-moving conditions of network competition.

ENVIRONMENTAL REGULATION AND INNOVATION

Environmental regulation addresses the problem of environmental damage caused by pollution generated as a consequence of economic activity. As long as polluters do not bear the full cost of the environmental damage they impose on others, they will lack the incentive to reduce emissions adequately. Unregulated markets therefore typically generate too much pollution. Well-designed environmental regulation can reduce pollution and increase the net value of economic activity, which is the value of goods and services produced after deducting all costs of production, including the social costs of environmental damage.

Environmental policy may have a significant impact on the pace and direction of innovation, which over the longer term may be of greater importance than the impact of policy on immediate environmental outcomes. In what follows, the interaction of environmental regulation and innovation is examined. The incentive to generate new technologies under alternative forms of environmental regulation is discussed. This is followed by a discussion of the diffusion of existing technology among potential adopters and the role for policy to modify diffusion rates. Some of the major points of this discussion are illustrated in the context of policy regarding global climate change. Finally, the long-run impact of environmental regulation on productivity is discussed.

ENVIRONMENTAL POLICY AND INCENTIVES TO INNOVATE

Three Approaches to Environmental Regulation

Governments can implement environmental regulation in any of three principal ways: by providing producers and consumers with economic incentives to reduce their emissions, by enforcing limits on the rate of pollution discharge, or by mandating technology that producers or consumers must use to reduce pollution. This Administration's environmental policy has increased the use of incentive-based approaches. The preference for such approaches is often justified on static cost-effectiveness grounds: an incentive-based approach can achieve any environmental goal at lowest cost, given existing technology, because it induces emitters to reduce emissions as efficiently as they can with the

technology at hand. But incentive-based approaches can also be justified on dynamic grounds: under incentive-based regulation, sources of emissions may be more inclined to develop new technology that reduces pollution at lower cost than under alternative forms of regulation. In this way, market forces ensure that innovation and creativity are used to help improve the environment rather than devoted to finding ways to escape the brunt of regulation.

Examples of incentive-based approaches include tradable permit systems, emissions taxes, subsidies to reduce pollution, and liability rules. Under a tradable permit system, the government issues permits that allow emission of a given quantity of a pollutant; total emissions are limited by the number of permits issued. Emissions without a permit are banned. Although total emissions are thus capped, each source of emissions can choose its own level of emissions by buying or selling permits. The added flexibility afforded by permit trading allows sources that find abatement expensive to buy permits from sources that can abate at less cost. Thus, overall emissions are reduced at lower total cost. In 1998, for example, the Environmental Protection Agency (EPA) introduced regulations to reduce nitrogen oxides (NO_x) emissions in 22 States and the District of Columbia, allowing for emissions trading among electric utilities that are sources of NO_x emissions. Sources needing more permits than have been allocated to them can buy them from sources that succeed in reducing emissions below their initial allocation.

Under an emissions tax, sources of emissions are taxed on their activities that cause environmental damage. If the tax is set to approximate the social cost of the environmental damage caused by the activity, sources face appropriate incentives to reduce emissions to an economically efficient level, that is, the level at which the social benefits deriving from additional pollution reductions just cover their cost. Despite the theoretical appeal of emissions taxes, however, they have rarely been used to regulate pollution in the United States.

Subsidies, on the other hand, have been used occasionally to encourage the use of more environmentally benign technologies. A system of environmental subsidies mirrors that of an emissions tax: sources of potential environmental benefits receive government payments to encourage their beneficial activities. For example, under the Energy Policy Act of 1992, electricity produced from wind and biomass fuels—two environmentally benign sources of energy—receives a tax credit of 1.5 cents per kilowatt-hour generated.

Finally, liability rules impose financial responsibility on emissions sources for any environmental damage they cause, thus providing them with a direct incentive to reduce the adverse environmental impacts of their activities. For example, the Oil Pollution Act of 1990 makes firms liable for cleanup costs, natural resource damages, and third-party damages caused by their oil spills into surface waters.

Similarly, the Clean Water Act makes parties liable for the costs of cleaning up their spills of hazardous substances.

As noted at the outset, an economic advantage of incentive-based approaches is their static cost-effectiveness: given existing technology, they achieve a given environmental objective at lower cost. For example, a system of tradable permits minimizes the cost of a given amount of emissions reduction by ensuring that the reduction is undertaken by those emissions sources, and only those sources, that can do it most cheaply. This comes about because any source that can lower emissions at a cost below the market price of permits will profit by doing so, through the sale of its unneeded permits in the market. Likewise, any source for which the cost of reduction exceeds the market permit price will find it profitable to pollute beyond its allowance, covering its excess emissions by buying additional permits in the market.

It is not always feasible to monitor the contribution of individual sources to environmental damage. In such cases it is impractical to allocate emissions permits, levy taxes on emissions, or assign liability for damage. Instead, incentive-based environmental regulation may take the form of providing incentives for emissions sources to change their production methods, rather than incentives to reduce pollution per se. For example, fertilizer runoff from farmland causes nitrate pollution of ground and surface waters, but it is difficult to measure the pollution attributable to each of the many widely scattered ("non-point source") producers. In part because farmers contribute to non-point source pollution, the Department of Agriculture pays up to 75 percent of the costs of certain conservation practices that reduce environmental damage, under the Environmental Quality Incentives Program of 1996.

In contrast to incentive-based approaches, technology standards stipulate the equipment and methods that sources must employ to control emissions. Performance standards, on the other hand, specify a limit on the emissions allowed by each source but allow the source to choose how best to meet this limit. Many environmental regulations combine elements of both performance and technology standards. For example, the Clean Water Act requires sources to meet an effluent performance standard for conventional pollutants that is set according to what could be achieved using the "best conventional technology." Often this becomes a de facto technology standard. Conversely, technology standards sometimes allow sources to use technologies other than those specified if they can demonstrate that the alternative technology will achieve the same amount of pollution reduction.

In the context of environmental regulation, technology or performance standards, in contrast to incentive-based approaches, may not be cost-effective, because they provide no mechanism for concentrating emissions reductions where they are cheapest. Of the two types of standards, performance standards are preferred because they allow emissions sources

the flexibility to choose lower cost methods of abatement. Technology standards may also lock in the use of pollution control technologies that are unnecessarily costly in the face of changing conditions.

Incentives to Innovate Under the Three Approaches

Although incentive-based regulation may thus be preferable to regulation by performance or technology standards from the perspective of the short-term, static cost of achieving given environmental objectives, evaluation of the relative cost-effectiveness of the three approaches over longer horizons is more complex. Achieving ambitious environmental goals in a growing economy will require advances in technology (Box 5-5). The evolution of pollution control costs over time is affected by innovation, and the three approaches differ in the incentives they offer potential innovators. Innovation may be particularly important when environmental regulation is relatively new, because then there are often unexplored avenues of research and significant learning-by-doing effects.

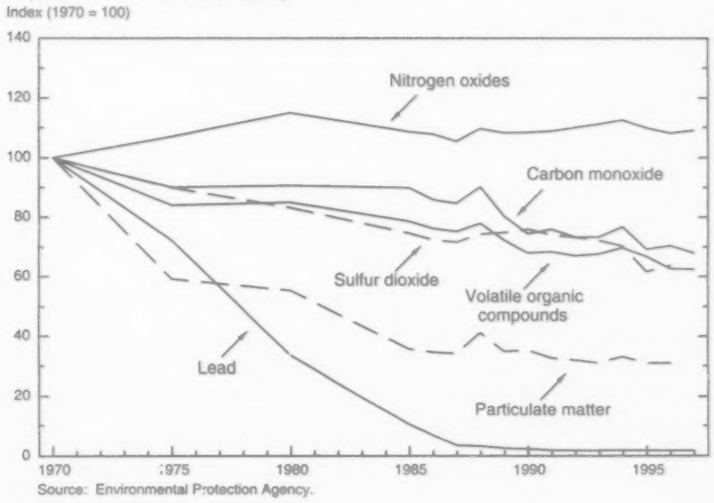
An important criticism of technology standards is that they may provide little incentive to search for more cost-effective ways to reduce emissions. A technology standard provides an incentive to develop cheaper new technologies only if those technologies can meet mandated targets and win regulatory approval. Performance standards, in contrast, provide an incentive to find lower cost ways of reducing emissions, at least to the level of the standard. However, they may give little incentive to search for new methods to reduce emissions *below* the

Box 5-5.—Recent Trends in Air Quality

Environmental regulation has sharply reduced emissions of a number of important pollutants over the past several decades. Emissions of five of six major air pollutants (the exception being nitrogen oxides) have fallen substantially since passage of the 1970 Clean Air Act Amendments (Chart 5-1). The EPA's phaseout of lead additives in gasoline has been largely responsible for the spectacular fall in lead emissions since the 1970s: lead emissions in 1997 were less than 2 percent of 1970 emissions.

These improvements occurred during a period of considerable economic growth. From 1970 to 1997, real GDP expanded by 114 percent, so that emissions per unit of GDP have fallen dramatically since 1970. In certain sectors the reduction in pollution per unit of output has been especially striking. Vehicular emissions of volatile organic compounds per mile traveled have fallen by 81 percent, and emissions of carbon monoxide by 73 percent, since 1970. These impressive reductions could not have taken place without substantial innovation in new processes and products as well as their widespread adoption.

Chart 5-1 **Emissions of Six Major Air Pollutants**
Since the Clean Air Act Amendments of 1970, the emissions of five out of six major air pollutants have fallen dramatically.



Source: Environmental Protection Agency.

current standard, unless standards are expected to become tighter in the future.

One way to increase the incentive to innovate under performance standards is for regulators to commit to the implementation of a strict standard in the future. Such strict, "technology-forcing" performance standards raise the value of innovations that lower pollution control costs. Whereas requiring emissions sources to meet a stringent standard immediately with existing technology may impose large costs, announcing the same stringent emissions targets well in advance provides an incentive to innovate, as well as time to develop the infrastructure and make other investments necessary to adopt and implement new technologies. This can reduce compliance costs significantly. For example, in 1970 the California Air Resources Board adopted stringent air emissions standards for new cars, which took effect in 1975. Many at the time did not believe the standard could be met at a reasonable cost. Yet the stringent standard contributed to the development of an emerging technology, the catalytic converter, which cut automobile emissions dramatically and is widely used today. There is a downside, however, to the technology-forcing approach. Innovative activity is risky: investments in R&D may or may not pay off in new discoveries. If they do not, compliance costs may fall by less than anticipated, and the ambitious environmental goal may prove extremely costly to meet. And relaxing the goal at a later date in the face of high compliance costs, thereby rewarding failure, has its own drawbacks.

In contrast to both performance and technology standards, incentive-based approaches reward emissions sources for developing methods that reduce emissions, regardless of their current level. For example, under a system of tradable permits, any technology that reduces emissions allows a source to profit from higher permit sales (or lower permit purchases). Similarly, under emissions taxes, subsidies to reduce pollution, or liability rules, innovations are rewarded through lower costs, higher subsidies, or lower liability payments, respectively. Because incentive-based approaches provide rewards for reducing emissions at all pollution levels, rather than just to a given standard, they offer incentives for innovation that are superior to those under either technology or performance standards.

The Impact of Alternative Regulatory Policies on Reducing Sulfur Dioxide Emissions

Regulation of sulfur dioxide (SO_2) emissions from coal-fired electric generating plants illustrates the importance of environmental regulatory structure for cost savings and innovation. The 1977 Clean Air Act Amendments required new fossil fuel-fired electrical generating plants to remove 90 percent of SO_2 from their smokestack emissions (70 percent if the plants use low-sulfur coal). This policy effectively mandated the use of scrubbers, devices that remove SO_2 from the exhaust gases produced by burning coal.

Title IV of the 1990 Clean Air Act Amendments established a tradable permit program for SO_2 emissions. In phase I of the program, which began in 1995, permits were allocated to 110 electric utility plants around the country. In phase II, which begins in 2000, the program will be extended to cover virtually all fossil-fuel-burning electric generating plants and is ultimately expected to reduce SO_2 emissions to 50 percent of 1980 levels. Under the tradable permit program, plants that can reduce emissions cheaply, by switching to low-sulfur coal, for example, can sell permits to plants for which emissions reduction is more expensive. Estimates of cost savings just from allowing trading range from 25 to 43 percent.

Changing the SO_2 regulatory system to a tradable permit system may also spur innovation that results in additional cost savings. Original compliance cost estimates will be overstated when they do not adequately take technological advances into account. (Box 5-6 explores whether there is a systematic tendency for preimplementation cost estimates to exceed costs actually achieved.)

In fact, estimates of the cost of reducing SO_2 emissions in 2010 have fallen substantially over time. In 1990 the EPA forecast that the total annual compliance cost for SO_2 emissions reduction in 2010 would be in the range of $2.6 billion to $6.1 billion (in 1995 dollars). In contrast, a 1998 study projected annual compliance costs in 2010 at just over $1 billion (again in 1995 dollars). Factors other than technological change

Box 5-6.—Comparing Estimates of Environmental Compliance Costs Before and After Regulation

In part because of the recent experience with SO_2 regulation, some environmentalists have voiced concern that estimates of compliance costs made before regulation is implemented systematically overstate the likely costs. A recent study reviewed the limited number of cases, from 1972 through the early 1990s, where both pre- and postimplementation cost estimates exist, to determine whether the former routinely overestimated compliance costs. The study found both cases of overestimation and cases of underestimation. Prior to 1981, compliance costs for nearly all new regulations were apparently overestimated. Since then, however, the accuracy of estimates has improved and the balance has been more equal.

Preparing accurate estimates of compliance costs involves many challenges. When estimating costs in advance of implementation, analysts must inevitably base their forecasts on the policies actually proposed. But policies are often changed or relaxed in the process of implementation, so that comparison of these early estimates with actual implementation costs often ends up comparing apples and oranges. Furthermore, cost estimates prepared before implementation typically assume 100 percent compliance. But not all firms may comply, and those that do not are often those with the highest compliance costs. Cost estimates after implementation are inevitably based on data covering only those firms in compliance, and hence they tend to be lower than estimates based on perfect compliance. On the other hand, to the extent that cost estimates are not sufficiently optimistic about future technological advances, the costs of compliance will be overstated.

also help explain the dramatic decline in expected compliance costs. For example, certain aspects of the program that effectively loosened the limit on total emissions were not included in the original forecast.

Perhaps the single most important factor, however, was the decline in railroad freight rates as a result of railroad deregulation. Coal from the Powder River Basin in Montana and Wyoming has the lowest production cost and lowest sulfur content of any coal in the United States. Lower railroad rates reduced the cost of transporting low-sulfur Powder River Basin coal to Midwestern utilities. Coal-fired electric generating plants already dependent on coal transported from distant locations gained direct cost savings. Other plants found they could reduce emissions at lower cost by switching to low-sulfur coal rather than investing in scrubbers.

The SO_2 experience reveals several advantages of relying on incentive-based approaches to environmental regulation. First, even with a given technology, allowing trading lowered compliance costs. Second, tradable permits provided added incentives to innovate. Third, tradable permits allowed sources the flexibility to adapt to changing circumstances rather than be locked into a prescribed method. The Administration has recently adopted rules to allow trading of NO_x emissions and is a strong proponent of establishing an effective international permit trading system to meet the reductions in greenhouse gas emissions agreed to in the 1997 Kyoto agreement on climate change.

Getting Innovation Incentives Right

It is widely recognized that the volume of R&D activity undertaken in a market economy may fall short of what would best serve society's interest. The market failures that produce this outcome apply broadly throughout the economy but may be particularly acute in the area of environmental technology.

One critical reason why private R&D activity may be less than what is socially ideal is that the economic and social benefits of a promising new technology may exceed what the innovating firm can capture for itself. This appropriability problem can emerge where patent protection is incomplete, so that rival firms can quickly and freely imitate an innovation, or where basic research leads to advances in knowledge that are difficult to patent. Even where patenting is secure, there are often important knowledge spillovers from one firm to another. Innovations in one field may spawn ideas that lead to innovations in others. Empirical evidence supports the notion of appropriability effects: such evidence strongly indicates that the social rate of return from R&D greatly exceeds the private rate of return. Therefore, a strong case for public support for R&D can be made, to better align the private returns with the social.

Two additional concerns relating to the private provision of R&D are of specific importance to environmental policy. First, environmental regulation itself may aggravate the appropriability problem. As noted above, under technology and performance standards, emissions sources do not receive credit for the value of environmental improvements they introduce. As a result, beyond the usual appropriability problems facing innovators, there may be too little incentive for firms to generate environmental innovations.

Second, inappropriate incentives for innovation may also result when environmental regulation, even when incentive-based, is either too lax or too stringent. When regulation is too lax, emissions sources may have insufficient incentive to innovate to reduce emissions or to lower costs; when it is too strict, they may spend more on devising

innovations than the resulting reduction in emissions is worth. Abstracting from the appropriability concerns common to all R&D, incentive-based approaches generate efficient innovation incentives only when they succeed in "getting prices right"—that is, when they ensure that the prices of tradable emissions permits or the taxes levied on emissions fully reflect the actual damages resulting from pollution. Only under these conditions will potential innovators appropriately weigh the cost of innovations against the expected benefits, including both expected reductions in compliance costs and the benefits from reduced pollution.

Thus, although private sector incentives to innovate are typically insufficient, more R&D activity is not always better. Like other investments, investment in R&D activity is justified only when the expected benefits exceed the costs. Of course, it is difficult at the outset to predict the success of an R&D venture, because the returns are inherently uncertain. As Albert Einstein put it, if we knew what we were doing, it wouldn't be research.

Even when regulation succeeds in "pricing" environmental damage appropriately, a strong case can usually be made for government support of environmental research because of the large gap that likely exists between social and private returns, particularly in the area of basic research. The Federal Government funds environmental research to identify environmental threats and find solutions to those threats. Basic research into environmentally friendly technologies can provide the knowledge base for the development of cheaper means of controlling the environmental impact of economic activity. In 1994, direct Federal investment, amounting to $5.1 billion, accounted for around 50 percent of all U.S. environmental R&D expenditures. The greater part of the government's environmental R&D investment is carried out through its system of research laboratories and competitive grants to universities and researchers. Research is also undertaken through public-private research partnerships such as the Partnership for a New Generation of Vehicles (Box 5-7).

ENVIRONMENTAL POLICY AND THE DIFFUSION OF TECHNOLOGY

Although innovation is a necessary precondition for improved environmental technology, better environmental performance will not be realized unless that new technology is adopted. Regulatory, informational, and other hurdles may block or delay the adoption of new, more environmentally friendly technologies. Policy may play a useful role in encouraging the diffusion of new technology if consumers or firms do not adopt new technologies as fully or as rapidly as is best for society.

Box 5-7.—The Partnership for a New Generation of Vehicles

The Federal Government can play a particularly vital role in promoting R&D in situations where the private sector's incentive to pursue innovations with environmental payoffs is distorted. For example, low gasoline prices have made consumers less concerned about fuel efficiency, dampening the automobile industry's interest in developing more-fuel-efficient vehicles. Yet vehicle emissions are a major source of greenhouse gas emissions and other pollutants, and therefore such efforts would produce clear benefits to society.

In response, the Partnership for a New Generation of Vehicles was established in 1993 between the Federal Government and the major domestic automakers, with the aim of dramatically increasing the fuel efficiency of vehicles while maintaining performance and price. A goal of the program is to develop, by about 2004, a production prototype of a midsized sedan that would achieve 80 miles per gallon. The R&D needed to reach that goal ranges from basic research into lightweight materials and alternative power sources to applied engineering of new manufacturing processes. To entice firms to join the research endeavor, the government cofunds both basic and more applied research and provides access to the extensive Federal laboratory system and its experts. To date, several new technologies have been developed that are bringing this goal closer to reality.

Patterns and Incentives in Technological Diffusion

The diffusion of a new technology often follows a well-established pattern. Initially, the new technology is adopted by only a few. Over time the pace of adoption increases, slowly at first and then more rapidly. The pace of adoption finally reaches a peak and then begins to fall as the market approaches saturation. The trendline of cumulative adoption thus follows an S-shaped curve. The spread of information among potential adopters seems to explain this pattern. A few pioneers are the first to become aware of the new technology and make the decision to adopt. Word of the new technology then spreads to those in contact with the pioneers, and each new user informs several others, so that adoptions begin to pick up momentum. Finally, after the bulk of the population of potential adopters has learned about the new technology, the rate of new adoption slows.

This pattern of diffusion provides important insights into the rate of adoption, but it does not answer the policy question of whether that rate is efficient. Failure to adopt technology may be appropriate—the costs of adoption may simply exceed the benefits. But market failures may also impede adoption, even when the benefits outweigh the costs.

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For policy purposes it is important to distinguish between these two situations. Only in the second can policy play a constructive role in promoting the adoption of new technology. Like the incentives for innovation, the incentives for adoption of new technologies will be inadequate when market prices fail to reflect the full environmental impact of pollution. For example, if energy prices do not reflect the full environmental consequences of energy use, consumers will have an inadequate incentive to purchase energy-efficient products. An obvious solution to this problem is to "get prices right"—to adjust energy prices so that consumers face the true costs of their decisions.

A different problem arises when potential adopters lack complete information about potentially useful new technologies. In making their decisions about what products to buy, consumers may need to acquire information. As long as consumers both pay all the costs of acquiring information and reap all the benefits of making a more informed decision, their lack of complete information does not constitute a market failure. But in fact they do not reap all the benefits: in the course of adopting a new technology, one person often spreads information about that technology to others, through conversation or by observation. This sharing of information confers a benefit on those who receive it, but because the first adopter does not profit from that benefit, he or she will not account for it in deciding whether to adopt.

If this problem results in too little sharing of information, and therefore too little adoption of worthy new technologies, the solution may be for the government to provide information, or to require others to provide it. The government can also lower the cost of acquiring information by providing a credible source of objective information. The Energy Policy and Conservation Act of 1975, for example, requires many appliances to carry energy labels showing the product's energy efficiency rating and an estimate of its annual energy costs. The EPA and the Department of Energy also operate the Energy Star program, in which products are assessed for their energy efficiency, and efficient products are allowed to display the Energy Star label.

Another approach when consumers lack full information is to regulate technology directly. For example, the Department of Energy has implemented energy-efficiency standards for appliances. This approach may be preferred when providing information is costly.

Residential Energy Conservation: The Energy Paradox

Studies have found that many consumers are unwilling to invest in energy-efficient products such as compact fluorescent light bulbs, improved insulation materials, and energy-efficient appliances, even though they would save money by doing so. Their failure to make these energy-saving and apparently cost-saving investments is sometimes called the "energy paradox."

Consumers' investment in energy efficiency, whether in installing better insulation or buying more energy-efficient appliances, typically involves, like most investments, an initial cost followed by future benefits from lower energy bills. Studies have calculated the rate of return for a variety of investments in energy efficiency and found that these returns often have a present value that exceeds typical financing costs. Thus, consumers could expect net economic savings over time.

One possible explanation for the energy paradox is that many consumers are not in a position to capture the promised savings and therefore have little or no incentive to invest in energy efficiency. For example, renters may not make energy-efficient investments if their rent includes a fixed amount for utility costs, so that they do not directly reap the benefits from conservation. Consumers might also lack information about energy-efficient alternatives. For instance, there is some evidence that providing free information increases adoption rates for energy-efficient lighting. Or consumers may simply be myopic, influenced more by the immediate cash expense than by the promise of future savings. Policies that lower the initial cost of purchase may therefore be the most effective in encouraging adoption.

Some analysts think the energy paradox may be an illusion, an artifact of flawed data or logic. The engineering data used to estimate energy-efficiency gains may be too optimistic: the gains achievable in a laboratory setting may be far greater than what a typical consumer in a typical home would realize. Consumers may fail to install insulation or other energy-saving investments correctly, for example. The costs of investing in energy efficiency may be underestimated as well. The time and resources consumers devote to learning about energy-efficient investments are not usually factored into the analysis. For some consumers, these costs may exceed any possible savings. Energy-efficient products may also have other features or other effects that consumers do not like. Improved insulation may raise indoor air pollution by reducing ventilation; fluorescent light bulbs may not fit existing light fixtures. Finally, given uncertainty about the future price of a new technology, delay may be rational. Even if immediate adoption would save money, consumers who wait may get a better price and thus save even more. Because adoption can take place at any time, analyses that ignore this "option value" of waiting may overstate the value of current adoption.

A conclusive answer to the energy paradox has yet to be found. In any case, recent low energy prices combined with implementation of energy efficiency standards for appliances and various informational programs seem to have reduced the opportunities for investments that save both energy and money.

INNOVATION AND DIFFUSION: AN APPLICATION TO CLIMATE CHANGE POLICY

Climate change is a problem that will be with us for a long time: policies to address the threat will require the abatement of greenhouse gas emissions over decades, even centuries. Given this long horizon, innovation in technologies that can reduce greenhouse gas emissions must play a role, and therefore the impact of climate change regulation on incentives to innovate cannot be ignored. The ultimate cost of global efforts to address this environmental challenge will depend importantly on the pace at which such innovation takes place. The Administration's efforts to deal with climate change therefore incorporate many of the principles discussed above, to create appropriate incentives that promote both innovation and the speedy diffusion of new technology. These efforts are reflected both in achievements in international negotiations and in domestic actions.

Emissions of greenhouse gases, primarily from the burning of fossil fuels and deforestation, have led to a 30 percent increase in the atmospheric concentration of these gases (primarily carbon dioxide, methane, and nitrous oxide) from levels prevailing prior to the industrial revolution. If emissions continue along their projected, "business as usual" path, a doubling of carbon dioxide concentrations from their levels before the industrial revolution is likely midway through the next century. According to the best climate models, this could lead to global warming of the atmosphere of between 1.8 and 6.3 degrees Fahrenheit by 2100. The potential adverse impacts of such a change are many: a rise in sea level, greater frequency of severe weather events, shifts in growing conditions due to changing weather patterns, changes in the availability of fresh water, threats to human health from increased range and incidence of disease, and damage to ecosystems and biodiversity.

To address the risks of climate change, the member countries of the United Nations have participated in a series of international negotiations, including conferences in Rio de Janeiro in 1992, in Kyoto in 1997, and most recently in Buenos Aires in 1998. Building on the 1992 United Nations Framework Convention on Climate Change, the Kyoto climate change agreement places binding limits on emissions of greenhouse gases by the industrial countries over the period from 2008 to 2012. The agreement contains several features that promote the cost-effective reduction of these gases. For example, its proposed emissions trading program grants sources the flexibility to trade emissions allowances with sources in other industrial countries. Further, the agreement provides industrial countries with the flexibility to implement policies that promote trading across different types of greenhouse gases. Sources in industrial countries will have opportunities to invest, through the agreement's Clean Development Mechanism, in

clean-energy projects in developing countries, and thereby generate emissions credits for use at home.

The emphasis on emissions trading in the Kyoto agreement embodies the Administration's preference for incentive-based environmental regulation. For the reasons explained above, an incentive-based approach should give firms strong incentives to find low-cost methods of reducing or sequestering greenhouse gas emissions. By pricing greenhouse gas emissions, this approach also stimulates the diffusion of existing technologies and provides private sector incentives for R&D into the next generation of technologies. In addition, announcing emissions targets well in advance may produce payoffs akin to those of a technology-forcing standard. Such an approach provides incentives for firms to innovate, while also allowing them time to adjust by replacing depreciating plants with equipment incorporating new technology, thereby further lowering the cost of emissions reduction. In conjunction with the international trading system proposed under the Kyoto agreement, the Administration supports developing a domestic greenhouse emissions trading program starting in the 2008-12 commitment period. This would allow U.S. firms to participate in international trading of greenhouse gas emissions, as part of an efficient, low-cost national abatement strategy.

Because 82 percent of domestic greenhouse gas emissions come from the burning of fossil fuels, achieving climate change policy goals will require improving the energy efficiency of the economy. The rate of energy efficiency improvement (EEI) across the economy can be thought of as the sum of three factors: market-induced, policy-induced, and autonomous EEI. Market-induced EEI reflects the effect of changes in energy prices on consumption decisions. Policy-induced EEI reflects the effects of policies on energy consumption. The autonomous component of EEI is that which would take place even in the absence of policy and market price changes. The gradual structural shift in the U.S. economy toward services and away from manufacturing and agriculture may explain some of this component. Changes in energy efficiency over recent decades is summarized in Box 5-8.

Policies can provide incentives to invest in energy-efficient technologies and increase the rate of EEI through price changes. For example, the Administration's economic analysis on climate change found that a tradable permit program that results in permit prices of $23 per ton of carbon would increase the annual rate of EEI approximately 25 percent above the level projected in the absence of such a policy.

In addition to policies affecting energy prices directly, the Administration believes that a strong argument can be made for policies to stimulate innovation and diffusion through R&D and appropriate fiscal incentives. The President's 2000 budget includes continued funding for the Climate Change Technology Initiative (CCTI), a program

Box 5-8.—Energy Efficiency Since the 1970s

Energy efficiency in the United States is now much greater than it was at the time of the first oil shock just over 25 years ago. Nevertheless, because of growth in the economy, the United States today consumes more energy than it did in 1973. The ratio of energy use to GDP, a measure of the energy intensity of output, fell rapidly in the 1970s and early 1980s but stopped declining in the late 1980s. More recently it has again begun to decline (Chart 5-2). Yet despite these efficiency gains, total energy use rose by 27 percent between 1973 and 1997 (Chart 5-3), stimulated by population growth and rising GDP per capita. Virtually the entire increase came after 1986, a year that ushered in a period of relatively low energy prices. Before 1986, relatively high energy prices had kept energy use flat.

One of the most dramatic increases in energy use has been in that by motor vehicles: their annual fuel consumption rose 54 percent between 1970 and 1996. Although the average fuel efficiency of new passenger cars more than doubled between 1973 and 1996, from 14.2 to 28.5 miles per gallon, the fuel efficiency of the Nation's vehicle fleet has not increased as much, because of a shift toward light-duty trucks and sport-utility vehicles. The efficiency gains were also partly offset by an increase in miles traveled per vehicle and a large increase in the number of vehicles. The net effect of these changes has been a small decline in fuel use per vehicle but a large increase in total energy consumption (Chart 5-4).

Energy use in homes, in contrast, was about the same in the early 1990s as it was in the 1970s, as efficiency gains have kept pace with increases in the number of households, in average house size, and in the average number of appliances per household. For example, the efficiency of the average new refrigerator improved 192 percent from 1972 to 1996. Energy use per household declined rapidly in the late 1970s and early 1980s but has been stable since.

designed to spur the development and adoption of new energy- and carbon-saving technologies through tax incentives and R&D investments. Many of the efforts within the CCTI reflect recommendations made in a 1997 report by the President's Committee of Advisors on Science and Technology. The Committee found that "the inadequacy of current energy R&D is especially acute in relation to the challenge of responding prudently and cost-effectively to the risk of global climatic change from society's greenhouse gas emissions." By providing public support for energy R&D through the CCTI, the level of innovation will likely increase, offsetting in part the appropriability problems associated with this type of R&D.

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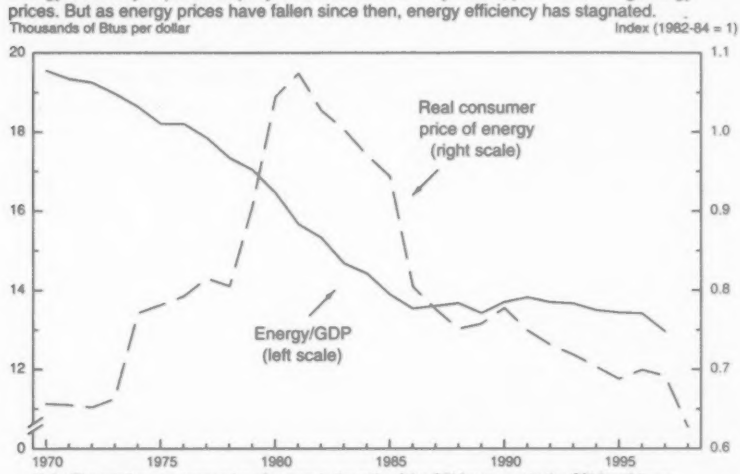
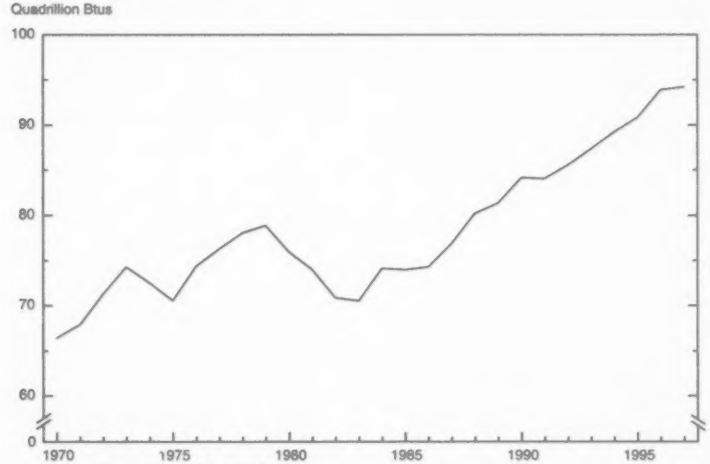
Chart 5-2 **Energy Efficiency and Prices**
Energy efficiency improved rapidly in the 1970s and early 1980s, periods of rising energy prices. But as energy prices have fallen since then, energy efficiency has stagnated.



Note: The relative consumer price of energy is the ratio of the CPI for energy to the CPI for all items.

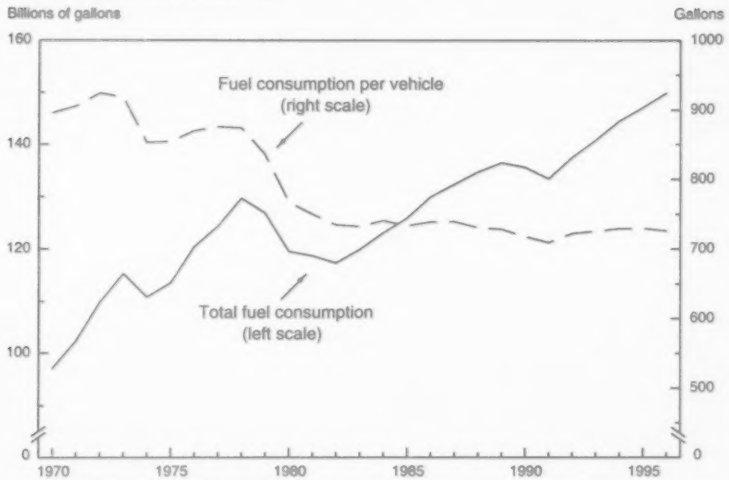
Sources: Energy Information Administration, Department of Commerce (Bureau of Economic Analysis), and Department of Labor (Bureau of Labor Statistics).

Chart 5-3 **Energy Consumption**
Total energy use has increased significantly since the mid-1980s as energy prices have fallen.



Source: Energy Information Administration.

Chart 5-4 **Fuel Consumption by Motor Vehicles**
Although fuel consumption per vehicle has declined, total fuel consumption by vehicles has continued to increase.



Source: Department of Transportation.

The proposed CCTI package for fiscal 2000 contains $3.6 billion over the 1999-2004 period in tax credits for energy-efficient purchases and renewable energy. These include tax credits of $1,000 to $4,000 for consumers who purchase highly fuel-efficient vehicles, a 15 percent credit (to a maximum of $2,000) for purchases of rooftop solar equipment, a 10 to 20 percent credit (also subject to a cap) for purchases of energy-efficient building equipment, a credit of $1,000 to $2,000 for purchasing energy-efficient new homes, an extension of the wind and biomass tax credit and an expansion of eligible biomass sources, and an investment credit for the purchase of combined heat and power systems. The package also contains $1.4 billion for fiscal 2000 for additional R&D investments covering the four major sources of carbon emissions in the economy—buildings, industry, transportation, and electric power—and investments in carbon removal and sequestration. The proposal builds on the fiscal 1999 budget, which included more than $1 billion in CCTI funding for R&D. The funding in that budget represented a 25 percent increase over fiscal 1998 appropriations for climate change R&D.

Complementing these fiscal measures, the Federal Government can undertake other actions to promote the diffusion of climate-friendly technology. In October 1997 the President called for a series of steps to reduce energy use by Federal buildings, vehicle fleets, and other new equipment, and to promote the use of renewable energy sources. As the Nation's largest single energy user, the Federal Government spends nearly $8 billion each year for power to operate facilities, vehicles, and

equipment, and more than 90 percent of this energy comes from fossil fuels. The Federal Government plans to expand its procurement of renewable and less carbon-intensive fuels. These efforts will accelerate the diffusion of new energy-efficient and carbon-lean technologies. Further, the Federal Government's experience with these technologies should speed their diffusion through the rest of the economy, by demonstrating their applicability and feasibility for other users.

THE LONG-RUN COSTS OF ENVIRONMENTAL REGULATION

The policies just described are based on the conviction that the development of new technology, and the widespread adoption and diffusion of already existing technology, can make environmental protection less expensive, and that over the long run it is possible to have both economic growth and a sounder environment. Yet some analysts make a much bolder claim: they argue that further environmental protection can be achieved at little or no economic cost. The energy paradox, described above, perhaps provides some evidence for this claim. If stricter environmental regulation is costless, then implementing such regulation is unambiguously desirable, because it would mean that real environmental benefits can effectively be had for free. Although it is a difficult proposition to test, the weight of the evidence suggests that stricter environmental regulation would impose an additional cost, but a modest one.

There are several ways in which stricter environmental regulation, by conferring benefits on regulated firms and the economy as a whole, might pay for itself. First, environmental regulation might force firms to reconsider their methods of production, which could lead them to discover new methods that simultaneously lower both emissions and cost. For example, in direct response to environmental regulations requiring the phaseout of chlorofluorocarbons, a new method was found for cleaning electronic circuit boards that not only eliminated the use of these chemicals but increased product quality and lowered operating costs as well. Second, firms that become subject to strict environmental regulation before their rivals do may gain a competitive (first-mover) advantage over their competitors by developing new products and technologies for which demand may later become widespread. For example, Scandinavian pulp and paper equipment suppliers increased their exports after more environmentally friendly production processes were introduced in Scandinavia. Third, if there are significant spillover effects from R&D, all firms may benefit from additional R&D activity that comes in response to environmental regulation, even though each firm individually might not have expanded its R&D efforts without the spur from regulation.

Many would dispute the proposition that environmental benefits can be obtained at no net cost. After all, if opportunities for profitable

investment are there for the taking, why should firms need prodding by regulators to seize them? Profit-maximizing firms gain by cutting costs and seizing strategic advantages. The profit motive itself should ensure that no large cost savings go unrealized, or first-mover advantages untapped. This critique, however, does not take into account the benefit of additional R&D in the presence of spillover effects. Moreover, difficulties in internal organization may prevent a firm from operating in a manner fully consistent with profit maximization. However, it is not clear that government policies can be designed to overcome these internal organizational problems.

Resolving the debate about whether environmental regulations impose long-run costs will require solid empirical evidence. Although it is difficult to test the proposition directly with existing data, some evidence concerning the long-run productivity consequences of environmental regulation is available. (Some intriguing evidence also exists on the environmental regulatory consequences of increased productivity; see Box 5-9.) The bulk of this evidence indicates that increasing the stringency of environmental regulation does entail a modest reduction in long-run productivity.

REGULATION AND INNOVATION: THE CASE OF THE ELECTRIC POWER INDUSTRY

This chapter has discussed the interplay between regulation and innovation, showing how innovation often necessitates regulatory change, and in turn how regulatory change can affect the pace and direction of innovation. Here we illustrate these themes with a discussion of the ongoing deregulation and restructuring of the electric power industry, one in which technological and organizational innovation has changed the appropriate form of regulation. The electric power industry provides an appropriate case study both because of recent initiatives to introduce competition in electric power generation and because of the potential environmental impacts of power generation.

Although other industries (air travel, trucking, and telecommunications, for example) have been opened to competition over the past few decades, the electric power industry, with sales of $212 billion in 1996, is among the largest yet to be targeted for deregulation. Competition has already been introduced at the wholesale level (electric power generation), but retail electricity markets (the sale of electricity to final consumers) are still, for the most part, regulated monopolies. In 1998 the Administration proposed legislation to remove many of the remaining barriers to competition and encourage States to implement retail competition. The goal of the Administration's Comprehensive Electricity Competition Plan is to provide consumers access to the wholesale power market while maintaining regulation of transmission and

Box 5-9.—Is There an Environmental Kuznets Curve?

We have so far examined the question of whether environmental regulation affects productivity. But could there be an effect in the opposite direction? Some have suggested that higher productivity might lead to increased demand for environmental protection, by way of an increase in income per capita.

In an empirical analysis, the economist Simon Kuznets found that income inequality rose with income per capita at low levels of income, but fell with income per capita at higher levels. The inverted-U relationship thus described has come to be known as the Kuznets curve. Several analyses of patterns of emissions of air and water pollutants across countries have shown a similar relationship to income per capita: emissions seem to increase with income at low incomes, and fall with income at high incomes—an environmental Kuznets curve. If the familiar inverted-U relationship in fact holds in this domain as well (a more recent study, using the latest available data, failed to find it), countries that reach a certain level of development should experience declining pollution with economic growth, because of increased demand for environmental protection with higher income. In other words, growth is not necessarily an enemy of the environment.

Just where the turning point in the relationship between development and environmental quality occurs, if it occurs, is important for predicting whether global emissions of any pollutant are likely to increase or decrease in the near future. If peak pollution levels occur at relatively low levels of income per capita, global emissions should soon begin to fall as more countries pass the peak. However, a substantially higher peak would mean that pollution will likely get worse before it gets better. One study found that sulfur dioxide concentrations peak at income per capita levels around $5,760, roughly that of a middle-income country like Chile. A second study using slightly different data and methods found that emissions per capita of sulfur dioxide, particulate matter, nitrogen oxides, and carbon monoxide peaked at higher income levels.

Unlike air and water pollutants, which have primarily local effects, greenhouse gas emissions seem to increase with income at all income levels. This should not be surprising. Because greenhouse gas emissions contribute to changes in the global atmosphere but do not have visible local effects, national governments, even in the richer countries, come under less pressure from their citizens to regulate their national emissions alone. Without international agreements to limit greenhouse gas emissions, achieving a more prosperous world may entail ever-increasing emissions.

distribution systems, which will probably remain natural monopolies. Just as telephone deregulation has allowed consumers to choose their long-distance company, so deregulation of the electric power industry will soon allow them to choose their source of electricity. The plan has five main objectives: to encourage States to implement retail competition; to protect consumers by promoting competitive markets; to ensure access to and the reliability of the power transmission system; to promote and preserve public benefits (for example, through assistance to low-income customers and consumer education); and to amend existing Federal statutes to clarify Federal and State authority with respect to the industry. The Administration's proposed deregulation plan provides an excellent example of how an enlightened regulatory approach can remove barriers to private innovation, resulting in both economic and environmental benefits. The competitive incentive to produce electricity more efficiently is expected to translate into lower fuel consumption and less pollution.

FROM INNOVATION TO DEREGULATION AND COMPETITION

The electric power industry has been regulated since the early 1900s, when States first began to grant electric companies exclusive service areas. Electric utilities were overseen by public utility commissions (PUCs) and guaranteed a "reasonable" rate of return on their investments, provided they set reasonable rates and met various social objectives such as universal access.

Regulation was justified on the grounds that it was less costly to have one electric utility provide service than to have competing utilities. Firms faced enormous startup costs in installing generating units, transmission and distribution lines, and individual connections. Duplication of transmission and distribution networks by competing firms would have caused unnecessary expense. With the support of the privately owned utilities, States restricted competition by granting utilities monopoly status to encourage them to make the necessary investments and avoid wasteful duplication. As demand for electricity grew rapidly, developments in generating technology also supported the notion that electricity supply was a natural monopoly. By the 1970s, coal- and nuclear-fired plants generally needed to be very large, exceeding 500 megawatts capacity, to exploit economies of scale. The capital demands for such a large plant needed to be spread over a large consumer base for the utility to recoup its investment. Since then, technological and organizational innovations in electric power generation have blunted its natural monopoly characteristics and reduced the need to restrain competition in the generation of electricity. Deregulation in the natural gas industry and the increased availability of gas caused gas prices to fall. The cheaper fuel source spurred innovation in electric power generation and made combined-cycle gas turbine plants, which today can be as small as 100 megawatts, competitive with much

larger coal plants. In 1994 these technologies contributed to a 35 percent fall in the average size of new fossil-fuel generating plants relative to that of existing plants. These changes mean that large users can threaten to generate their own electricity if their utilities do not offer lower rates. Technologies on the horizon promise further reductions in the efficient size of electricity generation, to the point where even residential users may some day find it economical to generate their own power (Box 5-10).

The development of an interconnected electricity system, and an improved understanding of how to operate generating plants and the transmission grid independently of each other, have made competition feasible. As the market for electric power grew, individual systems began to interconnect, making it physically possible for consumers in one utility's service area to receive electricity from generators in another. To maintain the integrity of the electric power grid, the quantity of electricity supplied must always match the quantity demanded. With quantities demanded fluctuating constantly, the output of generators supplying power to the grid must be closely coordinated. Until recently, this was taken to mean that generation, transmission, and distribution services needed to be jointly owned. Recent technological and institutional innovations, however, such as computerized controls and independent system operators (ISOs), offer ways to coordinate unaffiliated generators and provide fair, open access to transmission lines while maintaining their integrity.

Today the electric power industry is governed by a mix of State and Federal regulation. But a series of Federal actions beginning in 1978 has begun to introduce competition at the wholesale level. The Public Utility Regulatory Policies Act of 1978 (PURPA) first opened the door by requiring public utilities to purchase power from renewable sources and from sources using cogeneration (see Box 5-10). The price of this "qualified power" was determined by State regulators and tended to be greater than the utility's average cost of generation. Although this requirement saddled some utilities with high-cost, long-term contracts, it also demonstrated that generators not owned by the public utility could be integrated into the electric power system, and it helped spur the development of smaller scale generating technologies. The Energy Policy Act of 1992 went further, creating a new class of independent generating companies that could sell power directly to utilities. In April 1996 the Federal Energy Regulatory Commission (FERC) issued Order 888, requiring public utilities to provide access to their transmission lines at reasonable, nondiscriminatory rates.

At the State level, to further these policies and reap the benefits of competition, many utilities are collaborating to create regional or statewide ISOs to manage their transmission grids. ISOs set transmission prices and can contract for network services (to provide backup power, for example). There are currently four ISOs in operation

Box 5-10.—The Trend Toward Decentralized Power Generation

The trend toward smaller, cleaner, and quieter generating plants, combined with certain aspects of the physics of electricity transmission and generation, has led some to claim that the days of centralized electric power are numbered. Generating electricity from a fuel source is never perfectly efficient; some of the energy in the fuel source is inevitably lost in the transformation process. This energy typically takes the form of heat, which can be captured and used in industrial processes, or as space heating if the generator is physically close enough to consumers in need of heat. An electric power plant thus produces two potentially valuable products—electricity and heat—for the price of one. The exploitation of these potential economies is called cogeneration.

Once generated, electricity typically goes through many steps before reaching the end user. It may be transmitted over high-voltage wires for long distances, after which it must be transformed into lower voltage to be distributed, and finally transformed again before being delivered to consumers. On average, some 7.5 percent of the electricity generated is lost through the distribution chain before reaching the end user. On-site electricity generation avoids the greater part of these losses, thus increasing efficiency and lowering costs.

In the past, economies of scale in electricity generation and the nuisance of locating loud and polluting plants near homes and businesses outweighed this incentive for small-scale local generation. This situation has begun to change, however, as very small scale plants are becoming more competitive with large-scale generation, and as plants are becoming quieter and less polluting.

These changes do not necessarily imply the total demise of centralized power. An electric power grid remains an efficient way of allowing generating plants with different production characteristics to serve consumers with different load profiles. For example, electricity demand from many businesses peaks during the day, whereas residential demand is concentrated during the mornings and evenings. If each of these groups generated its own electricity, not only would each need to have its own facilities, but each facility would spend many hours per day with slack capacity. A single large generating plant can supply the same customers with less total generating capacity. Depending on the size of distribution losses and the value of excess heat, it would be wasteful to have two separate plants, one at the office and another one at home, when one plant could service both loads.

around the country, and seven others are in the planning stages. Still others are planning to form power exchanges or pools to help create efficient spot power markets.

States throughout the country are going further, expanding consumer choice by introducing retail competition into electricity markets. Eighteen States have passed legislation or issued regulations toward this end. Many States and utilities across the country have implemented pilot programs, and statewide retail competition is, to various degrees, already being offered in California, Massachusetts, Montana, Pennsylvania, and Rhode Island.

Although States are thus moving forward, several Federal laws and regulations still hamper full competition in retail markets. For example, the Public Utility Holding Company Act of 1935 makes it hard for utilities to cross State lines to compete in each other's markets. PURPA requires public utilities to purchase expensive "qualified power" but would not impose such costs on new competitors. The Administration's electricity competition plan would remove these and other barriers to competition. It would also modernize the institutions that protect the reliability of the electricity supply system, enabling them to function more effectively in emerging competitive markets.

THE BENEFITS OF DEREGULATION

The traditional means of regulating monopolies through rate setting did not provide strong incentives for utilities to improve their efficiency or offer new services—things that would happen naturally in a competitive market. By allowing companies to compete to provide electricity to consumers, deregulation forces companies to search for more efficient means of producing and delivering electricity, as well as new means of providing the energy services desired by customers. In a $212 billion industry, even small efficiency gains from competition can have large benefits.

Above and beyond the direct efficiency gains in the production and delivery of electricity, retail competition can encourage firms to offer new products and find innovative ways to reduce overall energy costs. Time-of-day metering can encourage consumers to shift their purchases away from peak periods and thereby reduce capacity requirements. As already discussed, there appear to be barriers in the markets for energy-efficient products. Utility commissions have therefore stepped in to force public utilities to invest in energy efficiency. In the move toward a competitive industry, utilities are now rethinking such investments. There is no way for a utility to force consumers to keep buying its power once the utility has made an efficiency investment (buying insulation for a consumer's house, for example). New structures will develop in a more competitive market to allow firms to pay for and install energy-efficient equipment in return for a share of the subsequent savings. Restructuring, by making it easier to bundle efficiency services with

the provision of electricity, could provide incentives for increased growth of energy service companies (ESCOs). The potential role for ESCOs is illustrated by the experience in California under deregulation, where many supply contracts for commercial and industrial customers include an energy management component.

Competition may also permit customers to express, through their purchases, their preferences for environmentally sound electricity. "Green" power marketers have sprung up in many of the States now offering retail competition and in those with pilot programs. For a premium, these marketers sell electricity that is generated with a greater proportion of renewable sources than the current mix. If enough consumers are willing to pay enough extra for green power, it will provide a profit motive to encourage the future development of such resources.

THE CHALLENGES OF A COMPETITIVE MARKET: ENVIRONMENTAL AND SOCIAL OBJECTIVES

Regulatory changes bring with them a host of challenges, as old ways of meeting various objectives must be rethought. In the past, PUCs had direct oversight over utilities. In some States they sought to include environmental considerations in their approval criteria for new generating assets. This encouraged the construction of generating plants that were less polluting than would have been the case if utilities were allowed to ignore this issue. With competition, however, PUCs lose their ability to influence the composition of electricity supply. If a utility is required to buy more expensive clean energy, its rates will have to reflect the higher costs. With competition, consumers would then be able to buy power from other providers who had lower costs because they were not subject to the same provisions.

In a competitive market, unless these environmental spillovers are internalized through other means (such as existing environmental regulations), the government must step in to pursue them in new ways. For example, as already noted, PURPA requires utilities to buy power from "qualified" clean generators. In support of the same goals, the Administration's proposal includes establishing a tradable renewable portfolio standard to promote more environmentally friendly power production. This approach would require each generator to cover a fraction of its total generation from renewable sources (not including hydroelectric power). If a seller did not generate enough renewable power by itself, it could purchase credits from companies that exceeded their generation requirement.

Similarly, under competition, other social objectives cannot be pursued by placing requirements on only one set of actors—the utilities. Therefore, the Administration's competition plan would establish a "public benefits fund" to support affordable electricity service to low-income customers, invest in energy efficiency measures, and promote

other social goals. The fund would be supported by a surcharge on all electric power transmission.

Deregulation relies on the forces of competition to keep prices reasonable for consumers. The benefits of deregulation, therefore, depend on the extent of competition in each market. The Administration's plan enhances FERC's authority to block anticompetitive mergers and to promote competition through divestiture and other means.

CHAPTER 6

Capital Flows in the Global Economy

INTERNATIONAL FINANCIAL DEVELOPMENTS last year posed serious challenges for the world economy. What began in the summer of 1997 as a regional currency crisis in developing Southeast Asia erupted into a wider and deeper economic disturbance in 1998. By late summer the turmoil had extended to many other financial markets and to a number of economies around the globe. The outbreak of financial and economic turmoil in Russia in August immediately threatened to spread the contagion to Latin America. Interest rates in these and other emerging market countries rose sharply, and large-scale capital flight raised risk premiums on their sovereign bonds. Several countries experienced sharp depreciations of their currencies or strains on their foreign exchange reserves. Prices of stocks, bonds, and other financial and real assets fell. Commodity prices continued to fall, engendering talk of global deflation. Ultimately the financial turbulence led to a general flight from risky assets even within the United States and Western Europe. Japan's hopes for recovery from a long-enduring slump were dashed.

Prompt policy action and signs of a turnaround in Asia improved the outlook later in 1998. Even so, by late 1998 a third of the world's economies were in recession or experiencing markedly slower growth. The International Monetary Fund (IMF) has estimated world economic growth at only 2.2 percent in 1998 and projected that it would remain at that level in 1999, in stark contrast to robust growth of 4.2 percent in 1997. Those estimates indicate a deceleration of global growth to levels not seen since the pronounced world slowdowns of 1974-75, 1980-83, and 1990-91. The risk of such a global slowdown poses new challenges to economic policy.

The widespread financial turmoil—perhaps the most severe experienced by the world economy during the last 50 years—followed a period of increasing global integration of goods and financial markets. World trade has increased dramatically as trade restrictions have steadily fallen and many countries have made a historic commitment to opening their economies to international trade. Restrictions on international capital transactions have also been eased, and the integration of financial markets has led to an unprecedented volume of cross-border capital flows.

The recent turbulence should not cloud the benefits of this ongoing trend toward globalization. The integration of markets has provided

greater opportunity, faster growth, and rising standards of living for a large share of the world's population. Trade among countries has fueled growth by harnessing the benefits of international comparative advantage and providing a dynamic stimulus to productivity. Financial integration, too, offers advantages. Open capital markets have promoted growth by allocating capital to those countries whose domestic investment opportunities exceed domestic saving. The ability of capital to flow to all corners of the world has allowed global investors to diversify the risk in their portfolios. And the knowledge that these investors are watching over their shoulders may have helped governments achieve discipline in their monetary and fiscal policies.

The promise of these long-term benefits should not, however, lead us to neglect the real costs of the current crisis—or the possibility of new crises years hence. Therefore the United States, together with other industrial and developing countries and the international financial institutions, has taken a number of important steps. To support continued growth in a context of low inflation and to restore confidence in unsettled financial markets, the Federal Reserve and other central banks worldwide have reduced key interest rates. To support economic stabilization in Brazil and to head off further contagion, the IMF has assembled a $41 billion stabilization package for that country. To ensure the IMF's continued ability to respond to financial crises, the Congress has approved the Administration's request for $18 billion in new funding, the U.S. share of a roughly $90 billion international package. To secure financial stability and help avoid crises in the future, Indonesia, the Republic of Korea, and Thailand have undertaken serious structural reform of their economic and financial systems. To resolve its long-festering banking problems and stimulate its economy, Japan has passed bank reform legislation and a program of fiscal stimulus. Finally, to strengthen the international financial system and make it less crisis prone, the international community is working together to foster reforms of the international financial architecture. These measures serve to promote confidence and improve the prospects for growth in the world economy in 1999.

This chapter analyzes the factors that have led to increased global financial integration. Next it considers the causes of the Asian crisis and its contagion to other economies, the policy response to the global turmoil, and the role of Japan. The chapter concludes with an analysis of the effects of the international financial crisis on the United States.

Chapter 7 is devoted to a discussion of developments in the international financial system and proposed reforms to its architecture aimed at reducing the likelihood of future crises and promoting the orderly resolution of those that do occur. That chapter also discusses the prospects for the recently launched monetary union in Europe and the implications of the creation of the new European currency, the euro, for the U.S. dollar.

INTERNATIONAL CAPITAL FLOWS, THEIR CAUSES, AND THE RISK OF FINANCIAL CRISIS

TRENDS IN FINANCIAL INTEGRATION

The phenomenal growth of international capital flows is one of the most important developments in the world economy since the breakdown of the Bretton Woods system of fixed exchange rates in the early 1970s. Their growth can be traced to the oil shock of 1973-74, which spurred financial intermediation on a global scale. Mounting surpluses in the oil-exporting countries could not be absorbed productively within those economies, and at the same time the corresponding deficits among oil importers had to be financed. The recycling of "petrodollars" from the surplus to the deficit countries, via the growing Euromarkets (offshore markets for deposits and loans denominated in key currencies, particularly the dollar), produced the first post-Bretton Woods surge of international capital flows. As a result, many developing countries gained access to international capital markets, where they were able to finance their growing external imbalances. Most of this intermediation occurred in the form of bank lending, as large banks in the industrial countries built up large exposures to developing countries' debt.

The buildup of these external liabilities eventually became excessive and, together with loose monetary and fiscal policies in the borrowing countries, sharp declines in their terms of trade, and high international interest rates, triggered the debt crisis of the 1980s. Starting in Mexico in 1982, that crisis rapidly engulfed a large number of developing countries in Latin America and elsewhere. The rest of the 1980s saw a period of retrenchment, with a significant slowdown in capital flows to emerging markets (especially in Latin America) as burdensome foreign debts were rescheduled, restructured, and finally reduced with the inception of the Brady Plan in 1989.

The resolution of the 1980s debt crisis led to new large-scale private capital inflows to emerging markets in the 1990s. Several factors encouraged this renewed surge of international financing. Many Latin American countries were adopting policies emphasizing economic liberalization, privatization, market opening, and macroeconomic stability. Countries in Central and Eastern Europe had embarked on their historic transition toward market economies. And rapid growth in a group of economies in East Asia had caught the attention of investors worldwide. Net long-term private flows to developing countries increased from $42 billion in 1990 to $256 billion in 1997.

The largest share of these flows took the form of foreign direct investment—investment by multinational corporations in overseas operations under their own control. These flows totaled $120 billion in 1997 (Chart 6-1). However, bond and portfolio equity flows accounted

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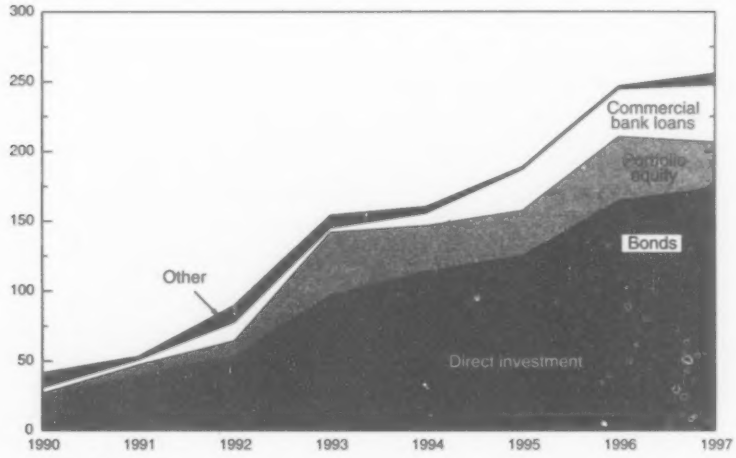
Chart 6-1 **Net Capital Flows to Developing Countries**
Foreign direct investment is the largest source of net capital flows to developing countries.



Source: World Bank.

for 34 percent of the total in that year, amounting to $54 billion and $33 billion, respectively. In contrast, commercial bank loans represented only 16 percent of net flows to developing countries, or $41 billion, in 1997, compared with about two-thirds in the 1970s. To the extent it went to bond rather than equity flows, this massive relative switch out of bank lending, which is characterized by a small number of substantial lenders, would eventually pose a problem not encountered in the 1980s, namely, how to coordinate the actions of a large number of creditors (an issue discussed further in Chapter 7).

Table 6-1 reports gross inflows and outflows of both foreign direct investment and portfolio investment (two of the main components of capital flows) for both developing and industrial countries over several decades. Two points are noteworthy. First, although net flows have been large and growing, the magnitude of gross flows may be a better indicator of financial integration. As investors in one country diversify their portfolios by purchasing foreign assets, and as foreign investors increase their purchases of assets in the first country, gross flows may increase substantially without net flows changing nearly as much. And in fact gross cross-border inflows and outflows have grown even faster than net flows. Second, the rise in cross-border capital flows has occurred in developing and industrial countries alike. Although the Mexican peso crisis of December 1994 led to a modest slowdown in capital flows to emerging markets in 1995, they surged again thereafter until the Asian crisis erupted in the summer of 1997.

TABLE 6-1.— *Capital Flows to Industrial and Developing Countries*
[Billions of dollars]

Flows	Industrial countries		Developing countries	
	Direct investment	Portfolio investment	Direct investment	Portfolio investment
Gross outflows:				
1973-78	28.6	11.8	0.4	5.5
1979-82	46.9	35.0	1.1	17.8
1983-88	88.2	126.5	2.3	-5.1
1989-92	201.3	274.6	10.4	10.3
1993-96	259.6	436.4	19.2	19.2
Gross inflows:				
1973-78	17.9	24.4	5.0	1.3
1979-82	36.6	51.0	14.6	3.1
1983-88	69.3	139.1	15.5	4.0
1989-92	141.9	343.0	37.8	27.5
1993-96	173.0	549.9	106.4	95.9
Net inflows:				
1973-78	-10.7	12.6	4.6	-4.2
1979-82	-10.3	16.0	13.5	-14.7
1983-88	-18.9	12.6	13.2	9.1
1989-92	-59.4	68.4	27.4	17.2
1993-96	-86.6	113.5	87.2	76.7

Source: International Monetary Fund.

Further evidence of the trend toward global financial integration is the sharp expansion of foreign exchange trading. This growth has been evident both in spot markets (where currency transactions are settled within 2 business days, or "on the spot") and in the use of derivative instruments (where trading is for future delivery of currencies, or in options to buy or sell currencies). Most purchases and sales of foreign exchange are related to financial transactions rather than merchandise trade, and indeed foreign exchange trading has grown much faster than international trade in goods over the last two decades (Box 6-1).

THE CAUSES OF INCREASED CAPITAL FLOWS

Several factors have undoubtedly contributed to this phenomenal growth of international capital flows. First, countries have opened their financial markets, both domestically and internationally, as governments in industrial and developing economies alike have phased out restrictions on financial activity and progressively reduced or eliminated controls on cross-border capital transactions. In many instances, this financial liberalization has been accompanied by macroeconomic stabilization, privatization, trade liberalization, and deregulation. These structural reforms in capital-scarce developing countries have created significant investment opportunities, attracting a surge of foreign capital with the expectation of high rates of return. Growth in international trade has also increased the

Box 6-1.—The Explosive Growth of Foreign Exchange Trading

The single statistic that perhaps best illustrates the dramatic expansion of international financial markets is the volume of trading in the world's foreign exchange markets. The Bank for International Settlements (BIS, an international institution in Basle, Switzerland, that acts as a kind of central bankers' bank) released in October 1998 a preliminary compilation of a triennial survey of 43 foreign exchange markets. It shows that, in current-dollar terms, the volume of foreign exchange trading in these markets grew 26 percent between April 1995 and April 1998, following a 45 percent increase between 1992 and 1995. That volume now stands at $1.5 trillion per day (after making corrections to avoid double counting). By way of comparison, the global volume of exports of goods and services for *all* of 1997 was $6.6 trillion, or about $25 billion per trading day. In other words, foreign exchange trading was about 60 times as great as trade in goods and services.

In the BIS preliminary survey, spot market purchases amounted to 40 percent of foreign exchange transactions in 1998, down from 44 percent in 1995. Forward instruments continued to grow in importance relative to spot sales. Over-the-counter derivatives, although still a smaller fraction of total transactions, have been the fastest-growing segment of the market.

A striking feature of the foreign exchange market is the small percentage of trades made on behalf of nonfinancial customers. In the most recent survey, transactions involving such customers represent only 20 percent of total turnover.

Trading also tends to be focused geographically in a few major centers. Arguably there is a natural equilibrium consisting of one major center in each of the world's three 8-hour time zones. New York is the major center in the Western Hemisphere, with U.S. volume now equal to $351 billion per day (18 percent of world turnover). Tokyo established itself in the 1980s as the major center in the third of the world that includes Asia. Its turnover, however, has fallen off recently, as markets in Singapore have gained. Average daily transactions totaled $149 billion (8 percent of the world total) in Japan and $139 billion in Singapore. London continues to handle the greatest volume of foreign exchange transactions, with its share of world turnover increasing to 32 percent, at an average daily volume of $637 billion.

To summarize, the volume of world trade in foreign exchange has continued to grow. Derivatives far exceed spot market transactions. Most trades take place between professional traders at banks and other financial institutions; only a fraction of foreign exchange sales and purchases directly involve those who import and export goods and services.

volume of trade-related financing and bolstered trade in derivative instruments, as buyers and sellers seek to hedge their exposures to currency and commercial risk.

At the same time, financial innovations in the United States and other industrial economies have rendered cross-border investments more accessible to institutional and individual investors. Revolutionary advances in information and communications technology, together with significantly lower transportation and transactions costs, have underpinned this rapid development. Mutual funds, hedge funds, and the growth of new financial instruments, including derivatives, have enabled investors to choose which risks they will and will not accept in their quest for higher returns. A radical increase in the available range of instruments and assets has afforded investors unprecedented opportunities to increase returns and decrease risks through global diversification. Although most wealth is still primarily invested in domestic assets, international portfolio diversification is now an option for both institutions and households.

THE FINANCIAL CRISES OF THE 1990s

Although financial crises have a long history and have recurred throughout the century, the same two decades that have seen spreading financial liberalization and ever-growing global capital flows have also witnessed such crises, which imposed serious real costs on the economies affected. Since the resurgence of these flows after the 1980s debt crisis, three more financial crises of at least regional importance have struck. The first occurred in 1992-93, when several currencies in the Exchange Rate Mechanism (ERM) of the European Monetary System experienced speculative attacks. Italy and the United Kingdom were forced to abandon the ERM in the fall of 1992 and allow their currencies to depreciate; Sweden, whose currency was effectively pegged to the ERM currencies, was obliged to follow suit shortly thereafter. A series of devaluations of several other ERM currencies ensued, and the ERM exchange rate bands for France and the remaining members had to be widened in the summer of 1993, to cope with the speculative pressure on their currencies.

The collapse of the Mexican peso in December 1994 touched off the second crisis. Other Latin American currencies quickly came under attack through what became known as the tequila effect. The third crisis of the 1990s, the Asian currency and financial crisis that has now spread to Russia, Latin America, and beyond, was triggered by the devaluation of the Thai baht in July 1997. (The history and causes of that crisis are described in detail below.) Although each of these crises had distinct characteristics and causes, several common elements, which factor significantly into current debates surrounding the reform of the international financial architecture, can be identified.

Recent Financial Liberalization

In most crisis countries, significant liberalization of international capital transactions and the progressive elimination of capital controls preceded the crisis. Italy and France had fully liberalized capital movements in the years just before the ERM crisis. Mexico had progressively liberalized its domestic and international financial regime in the early 1990s. Similarly, several East Asian economies had embarked on financial liberalization, both domestic and international, over the course of the 1990s.

Semi-Fixed Exchange Rate Regimes

All three crisis episodes occurred under semi-fixed exchange rate regimes. Each country that fell victim to crisis had attempted to stabilize the value of its currency with respect to those of its key trading partners. None, however, had fixed its exchange rate in a rigid way. For example, exchange rates in the ERM had been permitted to move against one another within a band (typically plus or minus 2¼ percent from a central parity rate), in an arrangement designed as a step toward European monetary integration. Similarly, the Mexican peso had followed a crawling band against the dollar, which allowed it to escape the very high inflation rates the country had suffered in the 1980s. Finally, the currencies of several Asian economies were loosely pegged to currency baskets in which the dollar had an effective weight of at least 80 percent. Although all these arrangements may have speeded integration into the world system of trade and finance and helped curb inflation in some episodes, they also, in the Mexican and Asian cases, may have hindered the adjustment of real exchange rates in the face of large trade deficits. The sudden abandonment of relatively fixed exchange rates in time of crisis reinforced negative market expectations, intensifying financial market pressures and producing severe recessions in the presence of large foreign currency-denominated debts.

The rigidly fixed exchange rate regimes of Argentina and Hong Kong are organized as currency boards, in which only as much domestic currency is issued as is backed by holdings of U.S. dollars (see Box 7-1 in Chapter 7). Their exchange rate regimes have successfully withstood the recent crisis, but at some cost to their economies.

Contagion

In all three episodes, a crisis that began in one country quickly spread beyond its borders. In some cases the next victims were neighbors and trade partners; in others they were countries that shared similar policies or suffered common economic shocks. At times, as in the summer of 1998, changes in investor sentiment and increased aversion to risk contributed to contagion within and across regions. (The causes of contagion are discussed further in a later section.)

Concurrent Banking Crises

The currency crises of the 1990s have often been associated with banking and financial sector crises. This is most clearly evident in the Asian and Mexican episodes, but weaknesses among financial institutions also played a role in the ERM devaluations. In Finland and Sweden, banking crises emerged in conjunction with the currency turmoil, whereas in Italy some segments of the banking system experienced financial distress. The Asian crisis provides a striking example of the link between currency and banking crises, underscoring the profound vulnerability to which fragile financial and banking sectors subject an economy. The causal links between banking crises and currency crises are complex and often reciprocal: financial weaknesses may contribute to a currency crisis, and a currency crisis can exacerbate a financial crisis by increasing the burden of foreign currency liabilities.

THE ASIAN CRISIS AND ITS GLOBAL REPERCUSSIONS

THE ASIAN ECONOMIC MODEL

For over two decades, beginning in the 1970s and in some cases earlier, a number of East Asian economies grew at very rapid rates, in a phenomenon widely hailed as the "Asian miracle." Thirty years ago it might have seemed that industrialization was a privilege reserved, with the sole exception of Japan, for the European countries and a few others where Europeans had settled. The East Asian miracle economies not only disproved this notion but industrialized far more quickly than their predecessors had. Starting from 1780 (roughly the beginning of the industrial revolution), the United Kingdom took 58 years to double its income. The United States and Japan took almost as long (47 years, starting from 1839, and 35 years, starting from 1885, respectively). Yet Korea accomplished the same feat in 11 years and China in just 10 (starting in 1966 and 1977, respectively).

These economies' remarkable success served to enhance living standards, reduce poverty, and expand economic opportunities for multitudes of the region's inhabitants. Perhaps even more impressive, these economies maintained a more equal distribution of income and wealth than did many developing countries that lagged behind. East Asia's success was achieved through a focus on the fundamentals—the factors that most economists consider critical to economic growth. These include high rates of saving and investment, sustained investments in education (with particularly high completion rates for basic education and high literacy), a pronounced work ethic, and an outward orientation characterized by heavy involvement in international trade

and investment (although openness to imports and foreign investment was in some cases highly selective). The East Asian strategy also emphasized sound macroeconomic management, including low budget deficits and inflation rates.

The East Asian recipe for economic success, with its clear focus on the underpinnings of economic growth, has served and should continue to serve as an inspiration for countries seeking to escape poverty, the recent crisis notwithstanding. Indeed, as developing countries around the world increasingly opted for capitalism over state planning in the 1980s and 1990s, they were not merely reacting against the conspicuous failures of state planning in their own economies and in the former Soviet bloc; they were also attracted to East Asia's inspiring example. Their enormous strengths notwithstanding, it is now commonly recognized that the East Asian economies concealed structural weaknesses, which eventually contributed to the crisis. Arguably, Asian governments relied too much on centralized state coordination rather than decentralized market incentives to maintain their progress. Government favoritism toward selected industries and exports was widespread, as was protection of domestic industries against foreign competition. Other practices distorted private sector lending and investment incentives. For example, relationship-driven banking (Box 6-2) hindered capital market discipline and flexibility. Financial institutions in general were often poorly supervised and inadequately regulated; implicit and explicit government bailout guarantees fostered moral hazard in the financial sector (as discussed below). A heavy dependence on bank debt rather than equity (as securities markets in some countries were underdeveloped) led to excessive leveraging of firms. The activities and balance sheets of corporations and financial institutions lacked transparency, as reflected in weak accounting and disclosure standards. Enforcement mechanisms were informal rather than formal: effective bankruptcy and foreclosure laws were lacking. Box 6-3 presents a further analysis of the Asian growth model.

A HISTORY OF THE CRISIS AND ITS CONTAGION

In the summer of 1997, financial turmoil in Thailand spread to several neighboring economies with outwardly similar features at similar stages of development: Indonesia, Malaysia, and the Philippines. This contagion took the form of declines in both equity and currency markets. Next, Singapore and Taiwan, concerned about the competitive effects of these four economies' currency depreciations, decided to let their currencies float rather than resist the speculative pressure building against them. By October the contagion was affecting Hong Kong (whose return to China that summer had already increased the political uncertainty about its future), putting pressure on the Hong Kong dollar and sharply depressing local stock markets. The first bout of truly global contagion then ensued, as stock markets in the United

States and Europe fell sharply, and as other emerging market economies were forced to raise interest rates to prevent a run on their currencies. The spread of the crisis to Korea and further deterioration in Indonesia led to a severe and worsening crisis in the winter.

Investor sentiment seemed to improve by March 1998, as the Thai and Korean currencies stabilized and Korea successfully converted its short-term bank debt into longer term loans. Also, higher interest rates and tighter monetary policy in Latin America following the October episode helped stabilize investors' confidence in that region. In April, however, several negative developments led to a new loss of investor confidence. Plunging commodity prices, resulting in part from the deepening recession in Asia, hurt a wide range of commodity exporters. Oil exporters such as Ecuador, Mexico, Russia, and Venezuela were hit hard by plunging oil prices. Agricultural exporters such as Argentina, Australia, Canada, and New Zealand were also affected, as the crisis in Asia and abundant global supply led to a sharp fall in agricultural prices. Mineral producers such as Chile and Peru suffered damage as well.

Violence in May surrounding the collapse of the Suharto regime devastated confidence in Indonesia and again shook confidence in the rest of East Asia. Currency pressures on economies as far removed as South Africa, a sharp deterioration of business conditions in Japan, and the continued fall of the yen added to the pessimism. The yen's weakness led to concern that China might devalue its currency in response and that the Hong Kong peg would collapse, causing another round of currency depreciations in Asia. However, China gave assurances that it would not devalue, and the pegs held. These adverse developments, however, led to another round of sharp declines in emerging market equities starting in May.

Financial turmoil spread next to Russia, where the fall in the price of oil (one of the country's biggest exports) fed a growing current account imbalance in an economy already weakened by inadequate tax collection, a large fiscal imbalance financed by short-term ruble debt, and disappointment at the slow pace of structural reform. The manifestations included a sharp fall in the Russian stock market, speculative pressure on the ruble, and a sharp increase in the interest rate on ruble-denominated public debt. Despite negotiation in July of an IMF package aimed at reducing the fiscal deficit, the Russian government failed to restore confidence. It proved unable to implement its anticrisis program in the face of opposition from the legislature, from powerful business interests, and from advocates of a return to communism. The deterioration in market conditions culminated in a comprehensive breakdown in confidence in the first weeks of August.

On August 17 the Russian government, faced with growing losses of foreign reserves triggered by capital outflows, decided to devalue the ruble, to restructure its short-term public debt unilaterally in a form

Box 6-2.—Market-Based (Arm's-Length) Versus Relationship-Based (Insider) Finance

Financial economists have long distinguished between market-based and relationship-based financial systems, broadly characterizing the Anglo-American system as the former and citing many Asian economies as examples of the latter. This generalization can provide useful insights for understanding Japan's persistent financial problems as well as the crisis in East Asian emerging markets. The details, however, differ widely within Asia. In Japan the best example is the "main bank" relationship that many established firms traditionally have with their primary lenders. In Asian developing countries the relationships that underpinned financial transactions were often based more generally on personal or political connections. Loans from a bank to an affiliated firm are called connected lending; loans guided by the government are called directed lending.

Although securities markets are more important in market-based systems, commercial banks are prominent in both systems. A crucial distinction concerns the roles that they play. In a market-based system, banks are one of many sources of external finance for firms. They compete with bond and commercial paper markets, along with markets for equity, to provide funds to companies. In such a system, bank loans are typically provided through arm's-length market transactions. Loans are contracted for specific periods, and interest rates are competitively determined on the basis of independent assessments of risk.

A decade ago, economists commonly emphasized the benefits that were thought to result from a relationship-based system. It was argued that main banks in Japan, for example, were better able to distinguish between temporary and fundamental problems when affiliated firms got into financial trouble. They could therefore continue to lend to those firms whose problems were only temporary, under circumstances where impatient, market-based financial systems would be unable to tell the difference, and therefore could not lend.

It was also argued that relationship banking improved young firms' access to funds. In market-based systems, competition

that implied material default, and to impose a 90-day moratorium on private sector payments of foreign liabilities. These decisions led to a profound financial crisis, which in turn sparked a dramatic spread of investor pessimism to Latin America and other emerging markets and a sharp downturn in equity markets in the United States and other industrial countries. The contagious spread of turmoil from Russia to Brazil and other Latin American countries arguably signaled a degree

Box 6-2.—*continued*

limited a bank's ability to take chances, since nothing prevented its competitors from subsequently stealing its customers if business went well. In relationship-based systems, on the other hand, long-term relationships promised handsome payoffs for banks from those firms that succeeded.

Some credited this financial system with promoting the Asian economies' high rates of investment and growth. But along with their strengths, relationship-based systems also possess weaknesses, which the Asian crisis has now exposed. Relationship-based systems neglect the information encapsulated in market prices. This information, the product of numerous independent assessments of profitability and risk, possibly becomes more important as economies develop and attractive opportunities for further investment become relatively more scarce. Relationship-based systems might also foster the corruption and abuse that have become known as "crony capitalism."

Long-term banking relationships create value when they facilitate the transfer of funds to profitable firms that are either young or temporarily distressed. Perhaps they are also unavoidable if an ineffective legal system forces investors to maintain some type of control to prevent their funds from being misused. They destroy value, however, when they misallocate resources.

The Asian crisis seems to offer numerous examples of such misallocation. Borrowers that should have been foreclosed upon, or at least cut off from further lending, were allowed to continue borrowing, which increased their losses and those of their banks. Lack of transparency in financing practices may have enabled bankers and corporate managers, shielded from market constraints, to invest in pursuit of personal priorities rather than in their firm's best interest. It appears, for example, that some Asian firms, unchecked by external market discipline, developed excess capacity in industries such as steel and electronics. Many Asian economies are currently struggling to overcome the adverse real consequences of these misguided financial decisions.

of financial panic, as investors apparently withdrew capital indiscriminately from most emerging market economies regardless of their strength. This sharp loss of confidence may have partly originated in the perception that the IMF had few resources left, or that it was not willing to use them to rescue a country that until then had been considered "too important to fail." If this is the case, it appears that investors drew the wrong lesson from the IMF's enforcement of

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conditionality in the face of unsound Russian macroeconomic policies. The loss of confidence may also have been partly caused by the perception that other countries might follow Russia down the path of unilateral default, debt moratoria, and capital controls.

Although the major Latin American economies were structurally much stronger than the Russian economy, investors now sought to avoid risk everywhere. Emerging market sovereign spreads (Box 6-4) over U.S. Treasuries rose to about 1,500 basis points (15 percentage points) by September (Chart 6-2). In all probability this signaled an

Box 6-3.—The Asian Growth Model in Perspective

The Asian crisis caught most analysts by surprise. Some had warned of economic policy flaws in Asia, but few expected them even to produce a sharp slowdown, and no one predicted the profound crisis that actually materialized. Until recently many observers thought that the East Asian countries possessed the strong economic fundamentals and structural characteristics necessary for sustained long-run growth.

If structural weaknesses in the Asian economic system lie at the origin of the crisis, as many observers contend, a natural question is why the crisis occurred when it did. One hypothesis is that countries pass through natural stages of economic development, and that the Asian financial system, based on such practices as relationship banking, is better suited to countries in the early stages. After all, financial intermediation by banks (even in the context of relationship banking) is a tremendous step to take for countries where firms are used to financing all investment out of family savings or retained earnings. Relationship banking may mimic the close ties of extended family lending and thus ease the transition to a more arm's-length financial system. Moreover, as long as growth is rapid, high leverage (that is, a high ratio of debt to equity) is sustainable. But when growth slows, the financial system needs to adapt, and firms need to reduce their high leverage.

Some slowdown in East Asia's growth was probably inevitable at some point, after the breakneck growth of the preceding decades, for the simple reason that economic convergence served as one of the driving forces of that growth. An economy that starts out behind the world leaders in income per capita can close part of the gap over time by growing more rapidly, provided of course such fundamentals as an outward orientation and investment in physical and human capital are in place. Convergence occurs for two reasons: the high rate of return on capital in labor-abundant economies, and the opportunity to emulate the most advanced technology and management practices of the leaders. But as the

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extreme rise in investor risk aversion, and large-scale flight from emerging markets and other risky investments in favor of "safe havens," notably U.S. Treasury bills. The sharp increase in the preference for liquidity, together with attempts to unwind highly leveraged positions, added to pressure on the prices of a wide range of risky assets. As described in Chapter 2, capital markets within industrial countries, including the United States, were also affected by the flight to quality: as yields on safe government securities fell, the spread of high-yield securities (junk bonds) over Treasuries increased sharply.

Box 6-3.—*continued*

income gap closes, this impetus to growth diminishes. Economies encounter diminishing returns to capital, limits on labor supply growth from rural-to-urban migration, and infrastructure constraints. Also, as they draw closer to the technological frontier, they have less to learn from those who have gone before. Japan had achieved convergence by the 1980s, and Hong Kong and Singapore by the 1990s. Korea and the others still had some way to go—a very long way in some cases. Nevertheless, the basic principle remains that the smaller the remaining gap, the less the forces of convergence contribute to further growth.

One controversial view is that East Asia's growth from the beginning had more to do with the rapid accumulation of the factors of production—both labor, through increased labor force participation rates, and capital, due to very high investment rates—than with growth in the productivity of these factors. Some studies have found only modest underlying growth rates of multifactor productivity (a measure of increased efficiency in the use of all factors, resulting in part from technological progress). If this view is correct, it means that East Asia's high growth rates were not sustainable in the long run, given that the rate of employment growth must at some point decline, and given an expected reduction in the rate of investment. However, even this view implies at worst a gradual slowdown of growth, not the sudden and severe crisis that occurred.

The answer to why the East Asian crisis struck when it did is thus probably a complex one. As discussed below, it appears that, around mid-1997, the factors working to produce an eventual slowdown in growth interacted in unfortunate ways with existing financial sector weaknesses, excessive corporate leverage, financial fragility resulting from poorly designed capital market liberalization, foreign indebtedness, a slowdown in export markets, worsening terms of trade, and the development of overcapacity in many sectors. The crisis was the result.

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Box 6-4.—Sovereign Spreads in Emerging Markets

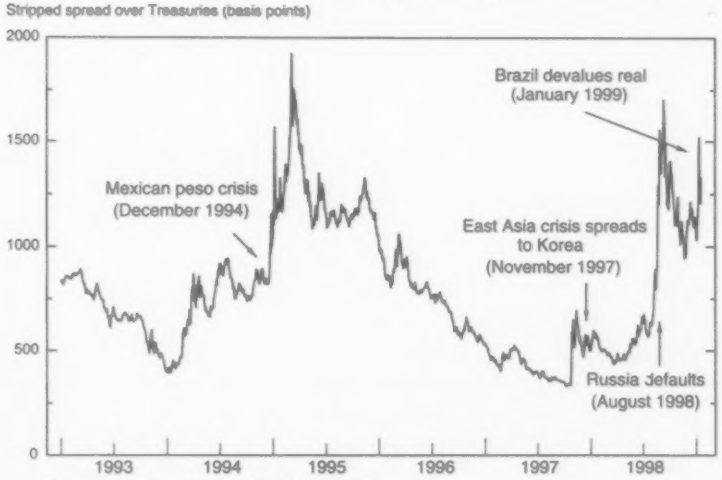
The Asian crisis has introduced into popular parlance a number of terms formerly encountered only in arcane financial discussions among bankers and economists. One of these is "sovereign spread." A simple definition of sovereign spread is the difference between yields on bonds issued by the government of one country (for example, an emerging market country) and those (safe) bonds issued by the government of a major industrial country. The yield in question is the yield to maturity, or the rate of return earned by holding the bond until it matures (including all interest and principal payments), and the bonds being compared must be of the same maturity and currency denomination for the comparison to be valid.

Using the prices of bonds issued by governments in emerging market economies, one can measure the implicit risk premium that the market demands to compensate for the extra default risk entailed in holding a bond from a particular emerging market. (Default risk is the risk that the debtor will fail to pay all principal and interest on its obligation on time. The bonds of the major industrial country governments are considered to carry little or no default risk.) The sovereign spread on foreign currency-denominated bonds measures only the default risk of a country's obligations—not currency risk, because payments are to be made in foreign currency.

During the periods of extreme market turbulence following the Mexican peso crisis in 1994 and the Russian default in 1998, sovereign spreads rose sharply. In the latter episode these spreads reached about 1,500 basis points by mid-September (Chart 6-2). Estimates of the default probabilities incorporated in emerging market bond prices can be derived fairly easily from their sovereign spreads, given the assumption that U.S. government bonds are default risk-free. At their height, these spreads implied very high default probabilities for many countries, leading to the conclusion either that markets were exceptionally pessimistic or that investors were becoming exceedingly risk averse.

A second interesting comparison relates to the difference in yields on dollar- and local currency-denominated bonds. As long as the default risk on these bonds is the same, this differential measures the market's assessment of currency risk, that is, the risk deriving from changes in the international value of the currency. Interestingly, even under most "fixed" exchange rate regimes, a positive currency risk premium can be observed, suggesting that investors expect a devaluation at some point or that they require an implicit "insurance" premium to compensate for that possibility.

Chart 6-2 **Perceived Risk and the Spread on Emerging Market Bonds**
The risk premium on emerging market bonds shot up between March and September 1998. Spreads subsequently declined, then rose again following Brazil's devaluation.



Source: J.P. Morgan Emerging Markets Bond Index.

Even the spreads between Treasuries and high-grade corporate bonds rose to some extent, reflecting the generalized increase in risk aversion. The huge losses and near-collapse of a prominent hedge fund contributed to the panic. By early October there were hints of a generalized global credit crunch: rising spreads on the entire range of bond instruments from high-quality corporate bonds to junk bonds and emerging market sovereign instruments; an interruption of access to international capital markets for most emerging economies; a drying up of bond financing in all emerging markets and a shrinkage in new bond issues in industrial countries; evidence of a tightening of lending standards by commercial banks in the United States; a slowdown in reported earnings growth; and a contraction in stock markets worldwide.

However, by the middle of November, conditions in international and domestic capital markets had improved noticeably, thanks to a number of positive developments:

- The Administration, as discussed in Chapter 1, took the lead in proposing a comprehensive set of steps to contain and resolve the crisis. These proposals included measures to support growth in the industrial countries, as well as policy reforms in emerging markets to promote their recovery; creation of a precautionary facility within the IMF to support countries subject to speculative pressures despite good economic fundamentals; measures to support the accelerated systemic restructuring of Asian banks and corporations; significant increases in the support by multilateral financial institutions of

social safety nets in the crisis countries; increases in trade financing to the affected countries; and reform of the international financial system architecture to make it less crisis prone.

- On October 30 the leaders of the Group of Seven (G-7) nations (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) issued a joint statement affirming their strong commitment to growth and the resolution of the crisis; endorsing the U.S. proposal for an enhanced IMF facility to provide contingent short-term lines of credit for countries pursuing strong, IMF-approved policies; presenting concrete proposals to implement initial reforms to the system; and laying out areas for further consideration in the effort to strengthen the international financial architecture. The G-7 finance ministers and central bank governors issued a more detailed statement that same day.

- The Federal Reserve reduced the Federal funds rate three times: at the end of September, in mid-October, and again in mid-November. These moves helped restore confidence and liquidity. Interest rate reductions in a number of other industrial countries, including Canada, Japan, and most of the European countries, significantly eased monetary conditions in the world economy.

- In October the Congress approved an $18 billion funding package for the IMF, opening the way for about $90 billion of usable resources to be provided by all IMF members to the liquidity-strapped institution.

- In November, negotiations leading to an IMF-led support and stabilization package for Brazil were concluded. The G-7 and 13 other countries agreed to support this country's adjustment efforts.

- Japan passed legislation to address the problems of its banking sector, and the Japanese government proposed a supplemental fiscal package, restoring some confidence in Asian markets.

- The yen appreciated sharply in October, reducing the risk of a devaluation by China that might have led to another round of devaluations in Asia. The stronger yen will also stimulate the exports of other East Asian countries to Japan and third-country markets, although it will raise debt-service costs for East Asian countries that have large amounts of yen-denominated debt.

- In mid-November the leaders of the member nations of the Asia-Pacific Economic Cooperation embraced a comprehensive strategy to accelerate recovery and restart growth. They undertook commitments to pursue prudent, growth-oriented macroeconomic policies, strengthen domestic financial institutions, and further liberalize trade and investment. The crisis-affected countries reaffirmed the importance of

restructuring the corporate and financial sectors to help revitalize the private sector. These countries also committed themselves to building and strengthening social safety nets to protect the poor and economically dislocated, with support from the multilateral development banks and the international community.

THE CAUSES OF THE CRISIS

Identifying the cause or causes of the Asian crisis has engendered heated debate. Countries that experienced currency and debt crises in the past, such as the Latin American countries in the 1980s, typically shared several common characteristics. These included large budget deficits and a large public debt, high inflation as a result of monetization of those deficits, slow economic growth, and low saving and investment rates. (A deficit is said to be monetized when the central bank finances it by printing additional currency.) In Asia, in contrast, most of the economies engulfed by the crisis had enjoyed low budget deficits, low public debt, single-digit inflation rates, rapid economic growth, and high saving and investment rates.

The absence of the macroeconomic imbalances typical of past crises has led some to argue that the Asian crisis was not due to problems with the economic fundamentals. These analysts contend that the crisis represented an essentially irrational but nevertheless self-fulfilling panic, akin to a bank run, fueled by hot money and fickle international investors. (See Box 6-5 for a discussion of domestic bank runs.) Although speculative capital flight certainly exacerbated the crisis, it is now commonly agreed that, along with their many strong fundamentals, the East Asian crisis economies also shared some severe structural distortions and institutional weaknesses. These vulnerabilities eventually led to the crisis in the summer of 1997.

First, connected lending and, at times, corrupt credit practices rendered the financial sectors of the crisis economies fragile. Loans were often politically directed to favored firms and sectors. In addition, regulation and supervision of banking systems were notably weak, and implicit or explicit guarantees that the government would bail out financial institutions in trouble created moral hazard (see Box 6-5). These weaknesses contributed to a lending boom and overinvestment in projects and sectors, especially real estate and certain other sectors not exposed to international competition, that were risky and had low profitability; excess capacity also accumulated in some sectors whose goods were internationally traded. Before the crisis, speculative purchases of assets in fixed supply fed an asset price bubble in some economies, with equity and real estate prices rising beyond levels warranted by the fundamentals. Poor corporate governance and what has come to be called "crony capitalism" fed the distortions in the system and fueled the investment boom. Domestic and international capital

Box 6-5.—Moral Hazard in Financial Institutions

Moral hazard is a key concept in the economics of asymmetric information, the study of transactions in which buyers and sellers differ in their access to relevant information. In general terms, moral hazard occurs whenever economic actors covered by some form of insurance pursue riskier behavior as a consequence.

Examples of moral hazard abound: insured homeowners, for instance, are more likely to build homes in a flood plain or in areas prone to wildfires, and less likely to install alarms and antitheft systems; insured drivers might drive more recklessly. If insurers can observe such behavior, they can penalize it through higher premiums. But if they cannot, they may try to regulate their clients' behavior and make sure that the client bears a portion of any losses. Sometimes these strategies are enough to mitigate moral hazard, but in extreme cases moral hazard may cause insurance markets to disappear entirely.

Banks are subject to a rather unique risk that both requires insurance and creates moral hazard. The risk is that a bank's depositors might suddenly, with or without good reason, lose confidence in the institution and seek to withdraw their funds en masse. Given that most of the assets of any bank are tied up in loans to clients, even a well-managed bank will quickly exhaust its cash reserves in the face of such a run. And any attempt to liquidate its other assets prematurely will diminish their value. Thus, even strong banks can fail if a bank run occurs, and the failure of one bank can cause runs on others.

Banks, of course, play a pivotal role in all modern economies, not only through their intermediation between saving and investment, but also through their operation of the economy's payments system.

liberalization may have aggravated the original distortions by allowing banks and firms to borrow more money at lower rates in international capital markets.

In Thailand, restrictions on entry into banking led to the growth of unregulated, nonbank finance companies, whose excessive borrowing intensified the real estate boom. Liberalization of international capital restrictions, for example through the establishment of the Bangkok International Banking Facility, enabled Thai banks and firms to borrow heavily abroad, in foreign currency, at very short maturities. No fewer than 56 of these heavily indebted finance companies were in distress even before the crisis and were eventually closed after the crisis broke.

In Korea, excessive investment was concentrated among the chaebols, the large conglomerates that dominate the economy. The

Box 6-5.—*continued*

Most governments therefore provide both a system of deposit insurance, to discourage bank runs, and lender-of-last-resort facilities, to assure banks ample access to liquidity in emergencies. In addition, governments frequently rescue troubled financial institutions that are deemed "too big to fail," that is, whose failure could do damage to the broader financial system or provoke a run on other institutions.

By reducing the risk faced by banks, however, such insurance mechanisms create moral hazard. With their loans largely funded from government-insured deposits, banks have an incentive to gamble by purchasing excessively risky assets. When things turn out well, shareholders reap the rewards; if things turn out badly, the government bears most of the cost. Bank depositors are similarly subject to moral hazard: if deposit insurance protects them from loss in the event their bank fails, they have little incentive to monitor the bank's risk taking.

Insurance against bank runs thus comes at the inevitable expense of increased moral hazard. Even so, its provision may still be justified. What is clear, however, is that either implicit or explicit government guarantees call for effective prudential supervision and regulation of banks and the maintenance of strong capital adequacy standards to mitigate the effects of moral hazard.

In East Asia, implicit and explicit government guarantees were coupled with inadequate prudential supervision and regulation of banking systems. Perceived government guarantees may have encouraged foreign investors to lend more to Asian banks and monitor their loans less carefully than they would have otherwise. Moral hazard thus contributed to Asian banks' excessive borrowing from abroad and excessively risky investing at home.

chaebols' control of financial institutions, together with government policies of directed lending to favored sectors, led to overinvestment in such industries as automobiles, steel, shipbuilding, and semiconductors. By early 1997, well before the crisis hit Korea, 7 of the 30 main chaebols were effectively bankrupt.

In Indonesia, a large share of all bank credit consisted of directed credit, channeled to politically privileged firms and sectors. Although Indonesia had already suffered a banking crisis in the early 1990s, such practices remained widespread. Moreover, most of the borrowing was in foreign currency terms, compounding debtors' inability to repay when the local currency depreciated. A large fraction of foreign banks' lending to Indonesia was not intermediated through the domestic banking system but went to firms directly.

Empirical studies confirm that, by the eve of the crisis, the return to capital had fallen sharply in East Asia as the result of excessive investment. Studies document a rapid buildup of fixed assets throughout Asia between 1992 and 1996, with particularly rapid growth in Indonesia and Thailand. With most of this growth financed by debt (especially in Korea and Thailand), many corporations were already heavily leveraged by 1996, well before the currency crisis increased the burden of that portion of the debt denominated in foreign currency. At the same time, moderate to low profitability severely impaired the ability of many Asian firms to meet their interest obligations. In Korea, the average debt-to-equity ratio of the top 30 chaebols was over 300 percent by the end of 1996; by 1997 the return on invested capital was below the cost of capital for two-thirds of the top chaebols.

In spite of high saving rates, the investment boom in East Asia led to large and growing current account deficits, financed primarily through the accumulation of short-term, foreign currency-denominated, and unhedged liabilities by the banking system. Exchange rate regimes entailing semi-fixed pegs to the dollar exacerbated the problem in two ways. First, as the U.S. dollar appreciated between 1995 and 1997, so did the semi-pegged currencies. This worsened the trade deficits of those economies whose currencies were closely following the dollar. Second, the promise of relatively fixed exchange rates led borrowers to discount the possibility of a future devaluation, and thus to underestimate the true cost of foreign capital. Also, although budget deficits were low in most of the region, the implicit and explicit government guarantees of a bailout of the financial system in a crisis implied large and growing unfunded public liabilities, which only emerged once the currency crisis had triggered a wider banking crisis.

Disturbances originating outside of East Asia made these economies still more vulnerable to crisis. One such development was, for several economies, a slowdown of export growth in 1996 and a worsening of the terms of trade, partly associated with a slump in the world price of semiconductors. Another was the persistent stagnation of the Japanese economy throughout the 1990s. The resulting weakness of the yen caused an appreciation of those Asian currencies that were effectively pegged to the dollar. Yet another exogenous event was the emergence of China as a major regional competitor.

In 1997 the bubble burst. Stock markets dropped, and the emergence of widespread losses, and in some cases outright defaults, revealed the low profitability of past investment projects. Nonperforming loans, already on the rise before the currency crisis, escalated, threatening many financial institutions with bankruptcy. In addition, the firms, banks, and investors that had relied heavily on external borrowing were left with a large stock of short-term, foreign currency-denominated, unhedged foreign debt that could not be easily repaid. The ensuing exchange rate crisis intensified this problem, as the

fall in local currencies dramatically increased the domestic currency value of the foreign-denominated debt, unleashing further financial pressures on banks and firms. The free fall of currencies was intensified by the sudden rush of firms, banks, and investors to cover their previously unhedged liabilities. Thus, accelerating depreciation aggravated the original foreign currency debt problem, creating a vicious circle.

Concern among investors about the commitment of governments to structural reforms heightened their uncertainty about policy, contributing to massive capital outflows. Although problems with the fundamentals likely triggered the crisis, currency and stock markets may also have overreacted, with panic, herd behavior, and a generalized increase in risk aversion producing a sudden reversal of capital flows, exacerbating the crisis.

The sharp reversal of capital flows to East Asia in the second half of 1997 is clearly evident in the data. Table 6-2 shows that net private flows to five Asian crisis countries (Indonesia, Korea, Malaysia, the Philippines, and Thailand), which had averaged $90 billion per year in 1995-96, experienced a dramatic turnabout in 1997 to a net outflow of $1 billion. This sharp reversal, amounting to about 10 percent of the combined GDPs of these countries, took place entirely in the second half of the year, as foreign investors fled and international banks sharply contracted their short-term loans. Commercial banks

TABLE 6-2.—*Five Asian Economies: External Financing*
[Billions of dollars]

Item	1995	1996	1997	1998 (estimated)	1999 (projected)
CURRENT ACCOUNT BALANCE	-41.0	-54.6	-26.3	58.5	43.2
External financing, net	81.5	100.6	28.8	-.5	-1.2
Private flows, net	79.0	103.2	-1.1	-28.3	-4.8
Equity investment, net	15.9	19.7	3.6	8.5	18.7
Direct equity, net	4.9	5.8	6.8	6.4	14.2
Portfolio equity, net	11.0	13.9	-3.2	2.1	4.5
Private creditors, net	63.1	83.5	-4.7	-36.8	-23.4
Commercial banks, net	53.2	65.3	-25.6	-35.0	-18.8
Nonbanks, net	9.9	18.2	21.0	-1.7	-4.6
Official flows, net	2.5	-2.6	29.9	27.8	3.5
International financial institutions	-.3	-2.0	22.1	21.6	-2.0
Bilateral creditors	2.9	-.6	7.9	6.1	5.5
Resident lending/other, net	-26.5	-26.8	-35.0	-16.9	-14.9
Reserves excluding gold [1]	-14.0	-19.3	32.5	-41.1	-27.0

[1] Minus sign indicates increase.

Note. Countries are Indonesia, Malaysia, Philippines, South Korea, and Thailand.
Detail may not add to totals because of rounding.

Source: Institute of International Finance.

withdrew $26 billion in 1997. Although equity investments also lost value in 1997, the decisions by international commercial banks not to roll over their loans to Indonesia, Korea, and Thailand worsened the financial crisis and the currency collapse. It is estimated that net private outflows in 1998 were even larger than in 1997, amounting to some $28 billion, driven again by large-scale bank withdrawals.

The drastic reversal of capital flows required a wrenching adjustment of the current accounts of the affected countries. Deficits in the current account (the aggregate of goods and services trade, investment income, and transfer transactions) can only be sustained as long as foreign lending is available to finance them. The withdrawal of that financing therefore resulted in higher domestic interest rates, depreciated currencies, and a sharp economic contraction, producing a substantial decline in imports and an abrupt about-face in the current account from deficit toward surplus. The aggregate current account balance of the five crisis countries moved from a deficit of $55 billion in 1996 to one of only $26 billion in 1997 (with most of the adjustment in the second half of the year) and an estimated surplus of $59 billion in 1998. As private capital flows have fallen sharply, the role of financing external obligations has been transferred to the official sector (the IMF and other multilateral as well as bilateral official creditors) and to foreign reserves. Whereas in 1996 the five Asian countries made small net transfers to official creditors, in 1997 and 1998 they received net official flows of $30 billion and $28 billion, respectively. Moreover, whereas in 1995 and 1996 net private inflows in excess of current account imbalances led to sharp increases in the five countries' foreign exchange reserves, the turnaround of capital flows in 1997 led to a loss of reserves equaling $33 billion.

The fundamentals in the crisis countries and the policies they followed thus go a good way toward explaining the reversal of capital flows in 1997. But the size of those flows and their concentration in the second half of 1997 suggest that, in addition to the debtors' excessive reliance on short-term bank debt, investor flight, especially by commercial banks, contributed to worsening the crisis. Calls for greater private sector involvement in crisis resolution (as proposed, for example, in the reports of the G-22 working groups, discussed in Chapter 7) recognize that the private sector needs to be involved in preventing financial crises and, should crises occur, needs to contribute constructively to their containment and orderly resolution. Indeed, the Korean crisis eased in early 1998 when commercial banks agreed to roll over about $20 billion in loans to Korean banks by turning them into medium-term loans.

THE CAUSES OF CONTAGION

Contagion, or the spread of market dislocations from one country to the next, has been observed in the behavior of exchange rates, stock

markets, and the sovereign spreads of emerging market economies. Some observers interpret this contagion in the same way they do the crisis itself, namely, as proof that markets are irrational and prone to unjustified panic. Various explanations based on economic fundamentals can also be adduced, however.

Common Shocks

Contagion may be due to common economic shocks. For example, falling commodity prices hurt commodity-exporting countries. This can explain why the same shocks affected countries as distant from each other as Canada, Chile, Indonesia, Russia, and New Zealand.

Trade Linkages

When one country devalues its currency, its competitive position improves relative to that of its major trading partners. The trading partners' currencies may then experience pressure as speculators recognize that their trade deficits are likely to rise. Another channel of contagion via trade occurs through income effects: a downturn in Japan depresses Asian exports to Japan, and vice versa. Trade linkages fostered the spread of the currency crisis within East Asia in 1997. Evidence suggests that contagion is related to the strength of trade links and regional factors.

Competitive Devaluations

Contagion may also have resulted from the prospect, or simply the fear, of competitive devaluations among countries competing in third-country markets. For example, the first wave of currency declines in Asia in the summer of 1997 worsened the cost competitiveness of other economies throughout the region that initially maintained their nominal exchange rates fixed. This led to attacks on many of these currencies. Concerns about loss of competitiveness help explain, for example, the decisions of Taiwan and Singapore to allow their currencies to fall as the other regional currencies were depreciating. The weakness of the yen in 1997 and much of 1998 may also have provoked fears of competitive devaluations in the region.

Other Real and Financial Linkages

Other links between countries' real and financial sectors may also serve as a conduit for contagion. If one country invests in and lends heavily to another, bad economic news in the latter will upset markets in the former. Pressures in the financial and currency markets of Hong Kong, Korea, and Singapore, for example, were related to the fact that these economies had heavily lent to, invested in, and traded with firms in Indonesia and the other crisis economies. Losses of this nature also affected banks and other financial firms in Japan, Europe, and the United States that had invested in East Asia, Russia, and Latin

America, and these linkages partly account for the contagion to industrial countries' financial markets.

Imperfect Information and Investor Expectations

Yet another channel of contagion involves alterations in investors' perceptions concerning common structural conditions in different economies or likely policy responses. For example investors' belief in the strength of the Asian economic model may have changed when one of the star performers stumbled. The failure of financial institutions in one country may lead investors to believe, in the absence of better information to the contrary, that institutions in similar countries in the same region might be facing the same problems. Similarly, the unwillingness or inability of several Asian economies to defend their currencies more aggressively may have altered investors' views concerning the policy preferences of other economies in the region.

Contagion may also have resulted as investors changed their assessments of the odds of official bailouts. In mid-August 1998, Russia decided to devalue its currency, default on its debt, and impose exchange controls. Although Russia had been considered the classic example of a country deemed too important to fail, its inability to meet the conditions of its IMF program and its policy actions led to the interruption of further official assistance. These events shook international investors' confidence and, rightly or wrongly, increased their concern that other emerging markets might follow similar policies or might not be bailed out. Spreads on emerging market sovereign instruments had not previously priced in this possibility, and the resulting contagion to Brazil and the rest of Latin America was rapid and sharp.

Market Illiquidity

Some large, highly leveraged financial institutions (including some hedge funds) lost money when Russia defaulted. They then, in effect, faced margin calls that forced them to liquidate their positions in other markets, providing yet another avenue of contagion. In markets that are imperfectly liquid, such sales will force down prices. The phenomenon thus points to the role played by market illiquidity in propagating contagion.

Shifting Risk Aversion and Investor Sentiment

The explanations of contagion just outlined can be categorized as involving rational assessments on the part of market participants, based either on the actual fundamentals or their perceptions thereof. Other hypotheses advanced to explain the phenomenon are based on "irrational" investor behavior. Some argue that, as volatility in financial markets increased, investors simply withdrew en masse, without distinguishing among emerging markets according to their fund amentals. Phenomena such as financial panic, herd behavior, loss of

confidence, and a generalized increase in risk aversion may indeed have played some role in the spread of the crisis in 1997-98 within Asia, from Asia to Russia, from Russia to Latin America and other emerging markets, and eventually to G-7 capital markets.

One indication of increased risk aversion among investors is the sharp increase in sovereign spreads in the summer of 1998 (see Box 6-4). Explaining so large an increase in spreads in many countries without resort to increased risk aversion requires the unlikely assumption that the perceived probability of sovereign defaults had risen to very high values in many emerging markets. For example, the sharp increase in spreads experienced by Argentina, whose probability of default was surely not extremely high, provides evidence of an increase in risk aversion.

THE POLICY RESPONSE TO THE CRISIS

THE ROLE OF THE INTERNATIONAL COMMUNITY

The international community (chiefly the IMF, the World Bank, the Asian Development Bank and the G-7) moved quickly to stem the spreading financial crisis. The United States encouraged the rapid development of financial stabilization packages to respond to requests for support, first from Thailand in July 1997 and later from Indonesia and Korea. As a condition for financial assistance, the IMF has generally required substantial economic reforms, including banking sector restructuring and, initially, fiscal discipline and the maintenance of high interest rates to curb capital outflows and currency attacks. The objective of these programs has been to restore investor confidence by tackling the root causes of the crisis in each country. For this reason, the programs went beyond addressing major fiscal, monetary, or external imbalances, and sought to strengthen financial systems, improve government policymaking and corporate governance, enhance transparency of policies and economic data, restore economic competitiveness, and modernize the legal and regulatory environment. The IMF's practice of making its lending dependent on such policy programs, which it continues to monitor and enforce as funds are being disbursed, is termed "conditionality." The IMF makes every effort to work with countries to identify reforms consistent with their circumstances, and the conditions negotiated can be altered over time if the economy does not respond as expected.

In the Asian crisis, the IMF-supported programs evolved as the dimensions of the crisis became clearer. The Indonesian case provides a striking example. The initial IMF package of October 1997 required strict fiscal discipline. In June 1998 a renegotiated agreement allowed the country to run a budget deficit of as much as

8.5 percent of GDP in 1998. Indonesia's economic performance had deteriorated, as policy uncertainty, political turmoil, and violence worsened the economic outlook through the summer of 1998. As a result, budget deficits had automatically risen. The IMF recognized that, in this context, the additional fiscal stringency needed to counter such a passive deterioration of the budget deficit would prove counterproductive.

In those countries that implemented IMF policy reforms most assiduously, particularly Korea and Thailand, the stabilization packages were successful in calming financial markets and creating the basis for growth to resume. A measure of financial stability returned in these countries in 1998 as the packages were implemented. Both countries saw their currencies appreciate in the first half of 1998 after sharp drops in 1997; domestic interest rates fell back to precrisis levels by the summer; trade balances improved substantially; and foreign reserves began to increase again. The financial crisis produced severe real consequences in both countries, as economic activity dropped sharply in 1998 and recessions began. However, by the late fall of 1998 some signals suggested that both economies may have bottomed out and that economic recovery might start in 1999. In particular, both economies saw an increase in real exports and some tentative signs of a recovery in economic activity.

THE MOTIVATION OF THE IMF PROGRAMS IN ASIA

The severity of the Asian crisis has led some critics to challenge the IMF's approach and the wisdom of the measures that it imposed. Several criticisms can be distinguished.

Structural Reforms

One criticism relates to the breadth of the restructuring efforts that the IMF required. Critics contend that the IMF has intruded excessively in the domestic affairs of crisis countries by insisting on structural reforms, which lie beyond its traditional competence in the area of macroeconomic adjustment. However, an effective rescue strategy had to address the factors responsible for the crisis, and these were primarily structural rather than macroeconomic. IMF lending would have served little purpose if the weaknesses in the financial sector (ranging from poor bank supervision and regulation to murky relations among governments, banks, and corporations) were not addressed. Similarly, improved corporate governance and an end to crony capitalism, on which the IMF insisted, would help countries avoid future crises. Market analysts had made it plain that halfhearted reform efforts would do little to restore market confidence.

The IMF's focus in the Asian crisis on structural reform, rather than only on macroeconomic issues, represents neither an unprecedented expansion of its domain nor an unwarranted intrusion into areas

beyond its competence. The IMF's approach to crisis management has always evolved over time in response to the changing problems faced by the world economy. For example, after 1973 the IMF turned its attention from the balance of payments problems of the industrial countries, which by then had abandoned fixed exchange rates, to the problems of developing countries, many of which were newly independent. Similarly, it adopted new approaches in response to the international debt crisis of the 1980s and adapted its policies to aid the transition of the former Soviet bloc countries to market economies after 1990. It is appropriate and desirable that an international agency adapt and evolve in response to developments in the world economic system.

The Prescription of Tight Monetary Policies

A second criticism relates to the IMF's monetary policy conditions, in particular its insistence on high interest rates to limit currency depreciation. Critics contend that high interest rates stifle growth and lead to the bankruptcy of otherwise viable firms. The logic of the IMF's high interest rate strategy was to contain the extent of currency depreciation. Like high interest rates, a plummeting currency in countries with large net external liabilities also stifles growth, by increasing the debt burden of banks and other firms whose debts are denominated in foreign currencies. The result is financial distress, bankruptcy, and economic contraction. Arguably, the failure of Malaysia and Indonesia to raise interest rates sufficiently following the run on the Thai baht may have been responsible for the destabilizing depreciations of their currencies that followed. Moreover, the surge in Indonesia's inflation rate reminds us that a loose monetary policy can rapidly ignite inflation expectations.

Restrictive Fiscal Policies

A third criticism is that the fiscal policy requirements in the IMF plans were unnecessarily strict. At the onset of the crisis, the Asian countries under attack were running small budget deficits or even fiscal surpluses and had achieved relatively low ratios of public debt to GDP. A loosening of fiscal policies as soon as the crisis broke would most likely have raised doubts about policymakers' commitment to reduce outstanding current account imbalances, jeopardizing the credibility of their plans. Also, even though fiscal deficits and public debt were typically low before the crisis, the crisis itself changed that picture: the projected fiscal costs of financial bailouts in several Asian countries were estimated in the range of 20 to 30 percent of GDP. Extra public liabilities of this magnitude translates into a permanent increase in the domestic interest bill paid by Asian governments of 2 to 4 percent of GDP per year. The IMF's fiscal plans, which were negotiated on a country-by-country basis, were targeted to raise the neces-

sary revenues to meet these extra interest costs. They were not just fiscal discipline for fiscal discipline's sake.

However, when recessions in the crisis countries materialized during 1998, the IMF progressively loosened its fiscal conditions to permit fiscal deficits on cyclical grounds and to accommodate programs to address the social consequences of the crisis. Like those of other countries, the economies of the crisis countries benefit from the use of fiscal policy as a counterweight to recession. It must be acknowledged, too, that the year's revelations about the size and depth of the recessionary effects of the crisis surprised not only the Asian governments and the IMF, but also the vast majority of country analysts.

Moral Hazard

Not all the IMF's critics claim that its measures have been too austere. Indeed, some have argued that the generosity of the IMF's rescue packages creates moral hazard, by leading international investors to lend carelessly and inducing domestic governments to engage in risky policies in the expectation that they would be insulated from the adverse consequences of their decisions by international assistance. However, several objections can be raised against the view that the expectation of an IMF bailout contributed importantly to the crisis, and against the overly simplistic view that the IMF in fact bailed out all investors in Asia. On the borrower side, it is hard to imagine that the availability of international support in the event of a crisis does much to induce moral hazard on the part of governments. Governments have strong incentives to avoid both the economic turmoil that a crisis produces and the strict and politically unpopular conditions that come with IMF support. Moreover, on the lender side, a majority of private creditors, especially bondholders and equity investors, have sustained huge losses even where official assistance was provided. By the end of 1997, foreign equity investors had lost nearly three-quarters of their holdings in some Asian markets. Only commercial banks were spared, and that only partially. For example, although foreign banks operating in Korea demanded and got public guarantees on bank loans as a precondition for rolling over existing loans, the conditions for these rollovers entailed a burden on these creditors. Their short-term loans were converted into medium-term loans at interest rates only a few hundred basis points above U.S. Treasury rates. Finally, although some have claimed that the Mexican rescue package in 1995 raised expectations of future bailouts and thus encouraged the later surge of capital flows to Asia, no direct evidence has been adduced to support this theory.

Even if these moral hazard concerns were judged to have some validity, they would still need to be balanced against the heavy economic and human costs of inaction. Failure of the international community to respond to a crisis, leaving countries and creditors to sort out their

debts on their own, could well result in extraordinary costs all around. A lesson from the debt crises of the interwar period and the 1980s is that an official hands-off strategy requires that debtors and creditors engage in complex negotiations over a long period. During that time access to international markets is curtailed, long-term growth is drastically reduced, and the human toll may be exorbitant. Also, the experience of the 1990s suggests that highly interdependent economies can be subject to the rapid transmission of speculative waves of financial panic across regions. Therefore failure to address a local crisis with an appropriate program of international assistance, restoring market confidence promptly, may greatly increase the chances of a systemic chain reaction.

U.S. SUPPORT OF IMF FUNDING

Since the crisis began, the United States has supported the IMF's role in extending financial support to crisis countries on a conditional basis. However, as the crisis progressed, it became apparent that it threatened even those countries that had made great progress in implementing sound macroeconomic and structural policies and had worked to strengthen the fundamentals of their economies. To deal with such threats, the United States was joined by the other G-7 countries in proposing an enhanced IMF facility to support countries with good economic fundamentals and sound, IMF-approved policies, to help them fight off contagion. This initiative builds on the establishment, in late 1997, of a new IMF facility to provide large-scale financing in exceptional circumstances, at shorter maturities and higher interest rates than under normal IMF financing.

The United States also recognized that if the IMF is to continue to play its critical role in countering contagion, its resources had to be expanded. With its nearly worldwide membership, broad experience, and sophisticated skills in financial crisis management, the IMF is the proper organization to take the lead in handling such episodes. Through the IMF, moreover, the United States succeeds in leveraging its own contributions toward crisis resolution. This Administration recognized that the United States could not expect to exert leadership in resolving the crisis unless it met its own fair share of the obligations of all IMF members. Therefore, the President requested, and the Congress agreed last year, to provide $18 billion in much-needed new funding to the IMF. Of this amount, $14.5 billion represents the U.S. share of a quota increase applying to all IMF members. The remaining $3.5 billion represents the U.S. contribution to a new backup source of financing called the New Arrangements to Borrow (NAB).

Many observers have misunderstood the consequences of IMF funding legislation for the Federal budget. Corresponding to any transfer to the IMF under the U.S. quota subscription or the NAB, the United States receives a liquid, interest-bearing claim on that institution,

which is considered a monetary asset. Thus, funds provided to the IMF are not treated as outlays in the Federal budget.

The President urged the world's major economies to stand ready to activate the $15 billion remaining in the IMF's existing emergency fund—the General Arrangements to Borrow (GAB)—to ensure the IMF's continued ability to support reform and fight contagion. The approval of the NAB doubled these emergency funds. Under the NAB, as under the GAB, IMF members whose currencies are relatively strong will stand ready to lend to the IMF when supplementary resources are needed, to forestall or cope with an impairment of the international monetary system, or to deal with an exceptional situation that threatens the system's stability. The resources available to the IMF under the GAB and the NAB combined will amount to as much as $48 billion. The NAB was activated shortly after it entered into effect on November 17, 1998, to help finance the IMF arrangement for Brazil, which its executive board approved on December 2.

NEW INITIATIVES TO RESTORE GROWTH IN EAST ASIA

In addition to supporting the IMF, the United States has recognized the need to do more to help crisis countries get back on their feet, to restore growth, and to mitigate the suffering inflicted on so many people in the countries affected.

The Asian Growth and Recovery Initiative, announced jointly by the United States and Japan at the summit of APEC leaders in Kuala Lumpur in November of last year, includes innovative financing schemes aimed at accelerating bank and corporate restructuring in the crisis-afflicted economies of East Asia. In Indonesia, Korea, and Thailand, for example, the combination of initially high interest rates and illiquidity has led to harsh recessions and a vast overhang of bad debt. Corporate debt-to-equity ratios, which as we have seen were already very high before the crisis, became unsustainable once the crisis struck, as a result of real currency depreciation and the burden of high real interest rates. When highly leveraged companies cannot service their debt, a self-reinforcing spiral is created in which banks' cash flows are squeezed, forcing them to contract new lending not only to the illiquid corporations but to those in better health as well. The object of bank and corporate restructuring is to restore the flow of credit and restructure corporate balance sheets, so that firms in these countries can get back to business, and to strengthen the corporate governance of these firms.

To ensure that the crisis-impacted countries maintain access to critical imports, and to help American businesses continue selling abroad, the Export-Import Bank will establish new short-term credit facilities for critical Asian and Latin American markets. The United States will coordinate its efforts with those of the other leading industrial nations to ensure that trade credit continues to flow. Moreover,

the Overseas Private Investment Corporation (OPIC) has developed a new financial instrument to help emerging market economies raise money in international capital markets. Its aim is to keep private capital flowing to crisis-impacted but deserving economies.

The severe economic downturn experienced in East Asia has caused sharp increases in unemployment and poverty, jeopardizing the substantial strides the East Asian economies had made over several decades in alleviating poverty and raising real incomes. The social costs of the crisis have been enormous, and made much worse by the absence of developed social safety nets, such as unemployment insurance and efficient welfare programs. The President has therefore asked the World Bank and the Asian Development Bank to double their aid through an expanded Social Compact initiative, with a focus on strengthening the social safety net. The emphasis would be on job assistance, basic needs, and aid to children, the elderly, and other groups especially vulnerable to economic distress.

REFORM OF THE INTERNATIONAL FINANCIAL ARCHITECTURE

Even as it worked to mitigate the impact and contain the spread of the crisis, the Administration collaborated with other countries to find ways to strengthen the international financial system to make it less prone to future crises. Discussions in 1998 concerning the reform of the international financial architecture culminated in the October publication of three reports on the subject. The reports were written by working groups formed by the G-22, a group of systemically significant industrial and emerging market economies, first brought together in April 1998. The G-22 reports are discussed in Chapter 7.

JAPAN'S ECONOMIC AND FINANCIAL CRISIS

Japan, the leading economy in Asia, inadvertently played an unfortunate role in the emergence and spread of the Asian crisis. Throughout the 1990s Japan has suffered a hangover from the bursting of stock market and land bubbles at the end of the 1980s. In 1996, after 4 years of disappointing growth, it appeared that the Japanese economy was finally recovering. But a large increase in the Japanese consumption tax in April 1997, implemented to address Japan's large fiscal deficit and longer term demographic pressures on its budget, caused the country to lapse into recession in the second quarter of that year.

Japan's economic weakness likely contributed to the Asian crisis through several channels. Weak growth at home reduced Japan's demand for imports from the rest of East Asia. Japanese banks, in fragile condition after the bursting of the 1980s bubble, were further weakened by a stagnant economy in the 1990s. Facing low interest

rates at home, they sought higher returns through large-scale lending to the fast-growing East Asian economies. Although U.S. and European banks had also lent extensively in the region, Japanese banks had the largest cross-border and foreign currency lending of any industrial country banks to the Asian crisis economies. Thus, Japanese banks and securities firms were particularly hard hit when the crisis erupted. As the crisis escalated, and as Japan's own economic crisis deepened in 1997 and 1998, many Japanese banks, faced with significant losses, recalled foreign loans in order to avoid a domestic lending squeeze.

Japan's role in the Asian crisis contrasts sharply with the U.S. role in the Mexican crisis of 1995. Whereas a strongly expanding U.S. economy helped Mexico avoid a worse outcome, the weakness of Japan's economy and financial institutions undoubtedly added to Asia's woes. In turn, the significant decline in Japan's own exports to the crisis countries, along with the losses suffered by its financial institutions on their Asian loans, have hit Japan's vulnerable economy hard, adding to its domestic difficulties.

Japan remained in recession throughout 1998. Real growth over the four quarters of 1997 amounted to -0.4 percent. Real GDP in the first half of 1998 was down 3.8 percent at an annual rate, and few if any signs of recovery were in evidence by the end of the year. Japan risks descent into a deflationary spiral in which falling prices cause high real interest rates, further discouraging spending.

In response to the deepening contraction and a growing credit crunch, the Japanese government has taken several significant policy steps. In the fall of 1998, legislation was approved providing public funds to address the problems of the banking system. Of the 60 trillion yen (about $500 billion) in the package, about 30 percent has been earmarked for protection of depositors, 40 percent to recapitalize weak banks, and 30 percent to purchase the shares of nationalized banks. Although questions remain about its implementation and effectiveness, the banking reform bill is a necessary step toward restructuring Japan's financial system.

To stimulate growth, the Japanese government announced a 17-trillion-yen fiscal stimulus package in April 1998, including both public works expenditures and tax reductions. As the contraction continued to intensify, however, the Japanese government proposed further expansionary fiscal measures in the fall. In November it announced a plan to pass a third supplementary budget aimed at implementing over 17 trillion yen in additional public works and other spending measures in 1999, along with more than 6 trillion yen in tax cuts.

As the world's second-largest economy, Japan has a key role to play in maintaining global economic growth. The United States has urged Japan to take strong and sustained fiscal measures to stimulate domestic demand, restore confidence, deal promptly and effectively

with its banking problems, and open its markets and deregulate its economy. Japan's performance will help determine the prospects for Asia's recovery.

EFFECTS OF THE EMERGING MARKETS CRISIS ON THE UNITED STATES

MACROECONOMIC EFFECTS

The United States enjoyed strong economic growth before the onset of the Asian crisis and has continued to do so since. But the crisis has had an impact, both real and financial. One consequence has been a marked decline in net exports and a widening of the trade deficit. The growing trade deficit (Chart 6-3) is largely attributable to three factors: faster income growth in the United States than in most other industrial countries, which raises imports; outright contraction in Japan and much of the rest of East Asia, which cuts U.S. exports; and an appreciation of the dollar in both nominal and real terms relative to both European and Asian currencies, and particularly the yen (from mid-1995 until September 1998). Since the summer of 1998 the dollar has depreciated against the yen, but the fall of the dollar against the other G-10 currencies is still modest on a trade-weighted basis (Chart 6-4).

Two sectors adversely affected by the crisis were agriculture and manufacturing. Shrinking exports and low prices (attributable partly to the financial crisis, and partly to large global supplies of agricultural commodities following bumper harvests), on top of bad weather in some regions, led to a fall in farm incomes. In manufacturing, both export industries and industries that compete with imports sustained damage. The commercial aircraft industry, for example, suffered from the fall of exports to Asia. The steel industry and the textiles and apparel industry have come under import pressure as the dollar's appreciation reduced the price of imports from the crisis countries. As discussed in Chapter 2, U.S. financial markets also felt the impact, and financial institutions have suffered losses on their emerging market loans and investments.

The appreciation of the dollar since 1995 (illustrated in Chart 6-4) also had a number of beneficial effects at home. Import prices have fallen, especially for oil and other commodities, contributing to the drop in inflation and improving the U.S. terms of trade (Chart 6-5). The terms of trade is a measure of the prices at which we sell our goods abroad, relative to the prices we pay for imports. An increase in the terms of trade translates into increased purchasing power of U.S. goods in world markets and higher real U.S. income. A strong dollar and subdued inflation have also supported lower interest rates, both short and long term, benefiting households, firms, and other borrowers.

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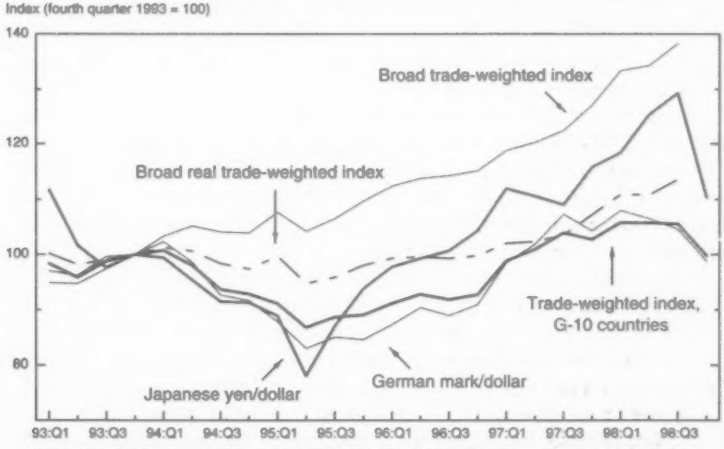
Chart 6-3 **Real Value of the Dollar and the Trade Deficit**
The trade deficit is a macroeconomic phenomenon: increases typically follow an appreciation of the dollar.

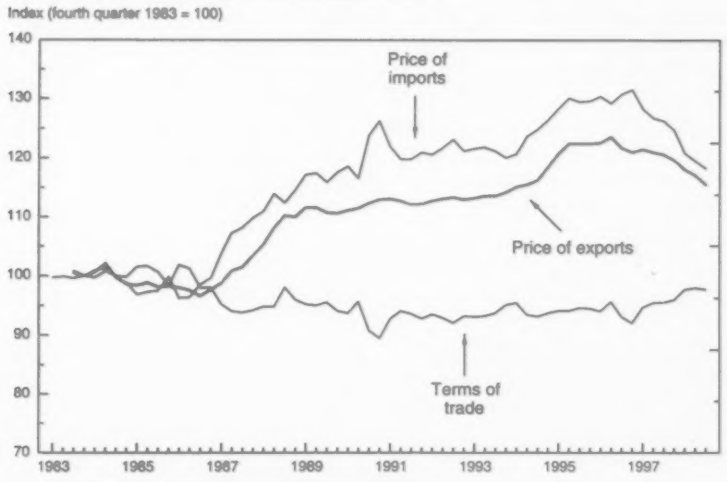
Sources: Department of Commerce (Bureau of Economic Analysis) and Federal Reserve Bank of Dallas.

Chart 6-4 **Dollar Exchange Rates**
The dollar has fluctuated sharply against the currencies of Japan and other major trading partners, but less sharply against broader indexes of foreign currencies.



Note: The broad trade-weighted index is relative to 129 trading partners; the real measure is relative to 111, and is adjusted for domestic inflation. A rise in an index indicates an appreciation of the dollar.
Sources: Board of Governors of the Federal Reserve System and Federal Reserve Bank of Dallas.

Chart 6-5 **Terms of Trade**
Import prices have fallen more than export prices since the onset of the Asian crisis, leading to an improvement in the terms of trade.



Source: Department of Labor (Bureau of Labor Statistics).

THE TRADE AND CURRENT ACCOUNT DEFICITS

The Short-Term Behavior of the Trade Imbalance

In 1998, faster U.S. growth relative to growth in our trading partners combined with the continued appreciation of the dollar to exert a powerful impact on the U.S. trade balance. The deficit in trade in goods and services rose substantially. Based on data for the first 11 months of the year, it now appears that the deficit for 1998 will be in the neighborhood of $170 billion, up from $110 billion in 1997. Compared with 1997, it appears that exports of goods and services in 1998 will be down about 1 percent, whereas imports of goods and services will be up about 5 percent. Relative to past trends, the decline in exports is by far the more striking of the two figures.

A large fraction of the increase in the dollar value of the trade deficit is related to the decline in exports to Asia; the contribution of import growth to the increased nominal value of the deficit has been quite modest thus far. The decline in exports to six key East Asian countries (Indonesia, Japan, Korea, Malaysia, the Philippines, and Thailand), measured at an annual rate, was running at $25 billion to $30 billion in the fall of 1998. Korea alone accounted for almost two-fifths of the decline. Imports from these countries have also risen, continuing an upward trend that has persisted for several years.

The increase in the trade deficit and the negative contribution of increased imports are larger when measured in real terms rather than as nominal dollar values, because import prices have fallen more than export prices. The dollar prices of imports from four East Asian economies (Hong Kong, Korea, Singapore, and Taiwan) fell 10.8 percent between August 1997 (at the onset of the Asian crisis) and December 1998; the dollar prices of U.S. imports from Japan declined by 4.7 percent over the same period. Although measures of import prices for the other Asian crisis economies are not available, it is likely that they fell by even more, because the depreciation of their currencies against the dollar was greater. Sharp drops in the global prices of many primary commodities have also exerted downward pressure on U.S. import prices. Import prices for petroleum products were 43.0 percent lower in December 1998 than in August 1997; import prices for agricultural goods declined 3.3 percent over the same period. Despite their overall decline, the prices of U.S. imports from the Asian economies have fallen by a smaller percentage than the values of their currencies have against the dollar. This implies that the pass-through from the depreciations to the decline in import prices has so far been less than full. Because U.S. export prices have also fallen, the decline in exports of goods and services was more modest when measured in real rather than nominal terms.

A Longer-Term Perspective on the Current Account

International trade has contributed greatly to growth and well-being in the United States. Nevertheless, some contend that the large and growing U.S. trade deficit costs American workers jobs; others argue that it reflects unfair trade practices of our trading partners or signals a loss of U.S. competitiveness in world markets. The growing trade deficit has indeed been associated with dislocations in some manufacturing industries, but job gains in construction, services, information technology, and other sectors not directly involved in international trade have been greater than job losses in manufacturing. Arguments about the adverse consequences of trade deficits are largely misplaced: the rising U.S. trade deficit is primarily a reflection of strong U.S. investment, employment, and output growth, not a symptom of economic weakness.

The current account and the saving-investment balance. Unraveling misconceptions about the trade deficit requires an understanding of the trade balance and a closely related concept, the current account balance. A country's trade balance is equal to the difference between the value of its exports and the value of its imports—in other words, the value of goods and services sold by its residents to foreigners minus the value of the goods and services that its residents buy from foreigners. The current account balance simply adds other sources of foreign income to the trade balance, to arrive at a complete accounting

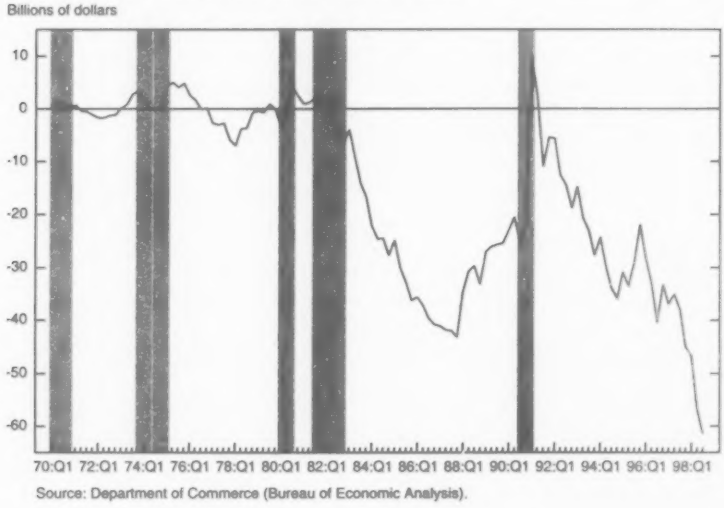
of the economy's current transactions (as distinct from its capital transactions, such as borrowing in the form of foreign loans). The most important of these other sources are interest and investment earnings received on foreign assets (and paid on foreign liabilities), and aid grants and transfers.

A country's current account balance also equals the difference between its gross national income (the sum of gross domestic production and net income received from abroad) and its spending (the sum of private and public consumption and investment spending). Since national saving is the difference between gross national income and total consumption, the current account is also equal to the difference between national saving and domestic investment. If a country's national income exceeds its spending, or, equivalently, if national saving exceeds domestic investment, the current account will be in surplus. If instead a country spends (that is, consumes and invests) more than its national income, investment will exceed saving, and the current account will be in deficit.

For the current account to be in deficit–that is, for investment to exceed saving—a country must be able to finance that deficit through capital inflows (borrowing) from the rest of the world. A country's current account deficit for a given period therefore equals the increase in its net foreign liabilities in that period (or the decline in its net foreign assets, if the country is a net creditor). Conversely, current account surpluses, which reflect an excess of saving over investment, increase a country's net foreign assets (or reduce its net foreign liabilities).

Business cycles, long-run growth, and the current account. The argument that current account deficits inevitably cause a net loss in jobs and output is at odds with the evidence. Rapid growth of production and employment is in fact commonly associated with large or growing trade and current account deficits, whereas slow output and employment growth is associated with large or growing surpluses. Chart 6-6 shows, for example, that the U.S. current account improved during the recessions of 1973-75. 1980, and 1990-91, but declined during the cyclical upswings of 1970-72, 1983-90, and 1993 to the present. This reflects both a decline in demand for imports during recessions and the usual cyclical movements of saving and investment. During a recession both saving and investment tend to fall. Saving falls as households try to maintain their consumption patterns in the face of a temporary fall in income; investment declines because capacity utilization declines and profits fall. However, because investment is highly sensitive to the need for extra capacity, it tends to drop more sharply than saving during recessions. The current account balance thus tends to rise. Consistent with this, but viewed from a different angle, the trade balance typically improves during a recession, because imports tend to fall with overall consumption and investment demand. The converse occurs during periods of boom, when sharp increases in

Chart 6-6 **Current Account Balance**
The current account balance has been positive and/or increasing during recessions and has decreased during periods of economic expansion.



Source: Department of Commerce (Bureau of Economic Analysis).

investment demand typically outweigh increases in saving, producing a decline of the current account. Of course, factors other than income influence saving and investment, so that the tendency of a country's current account deficit to decline in recessions is not ironclad.

The relationship just described between the current account and economic performance typically holds not only on a short-term or cyclical basis, but also on a long-term or structural basis. Often, countries enjoying rapid economic growth possess structural current account deficits, whereas those with weaker economic growth have structural current account surpluses. This relationship likely derives from the fact that rapid growth and strong investment often go hand in hand. Whether the driving force is the discovery of new natural resources, technological progress, or the implementation of economic reform, periods of rapid economic growth are likely to be periods in which new investment is unusually profitable.

Investment must, however, be financed with saving, and if a country's national saving is not sufficient to finance all new profitable investment projects, the country will rely on foreign saving to finance the difference. It thus experiences a net capital inflow and a corresponding current account deficit. The current account deficit is then merely the result of thousands of individual firms issuing debt or equity or borrowing from banks to finance investment. As long as these individual decisions are sensible, the associated current account deficit

should promote, not detract from, economic welfare. If the new investments are profitable, they will generate the extra earnings needed to repay the claims contracted to undertake them. Thus, when current account deficits reflect strong, profitable investment programs, they work to raise the rate of output and employment growth, not to destroy jobs and production.

Historically, countries at relatively early stages of rapid economic development, such as Argentina, Australia, and Canada in the early part of this century, have enjoyed an excess of investment over saving, running large structural current account deficits for long periods. The same general pattern has held in more recent times: faster growing developing countries have generally run larger current account deficits than the slower-growing mature economies.

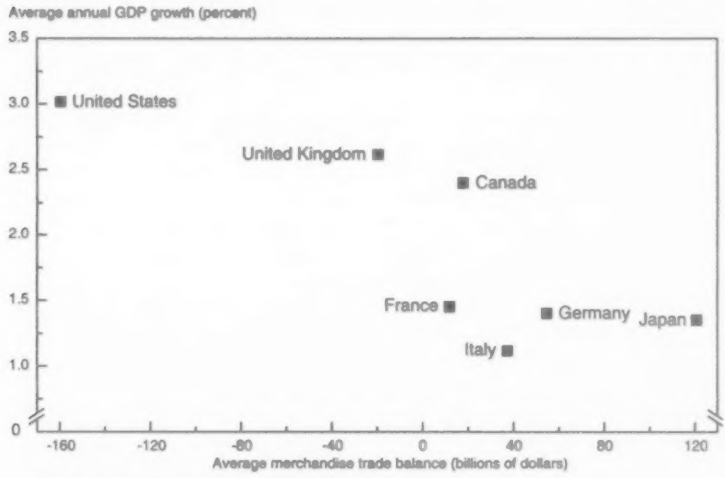
The link between trade and current account deficits and growth is also confirmed by comparing the U.S. trade balance with those of its G-7 partners since the recovery from the 1990-91 recession. Charts 6-7 and 6-8 show a clearly negative correlation between output growth and the trade balance, and between employment growth and the trade balance, respectively. The United States enjoyed the fastest output and employment growth—and the largest trade deficit—among the countries shown. Conversely, Japan had the largest trade surplus, but the second-slowest rate of growth. Trade surpluses are also the norm in Europe, where growth of output and employment has been disappointing. Similarly, unemployment in the United States has been low and falling since 1993, a period during which unemployment has remained high in Europe and has been growing rapidly in Japan.

Budget deficits and the current account. Although current account deficits are not usually a cause for concern when they reflect strong investment opportunities, they may be worrisome if they instead reflect a decline in national saving. Since national saving includes the government's own saving or dissaving, one cause of a growing current account deficit can be rising government budget deficits. Such deficits may be harmful, resulting in an unsustainable buildup of foreign debt, if the government spending they permit is devoted to current consumption rather than productivity-enhancing public investment.

For example, in the late 1970s many developing countries ran large budget deficits, borrowing heavily in world capital markets to finance them, and accumulating large foreign debts in the process. Much of this borrowing went to support excessive government spending in the face of insufficient tax revenue. By 1982 many of these governments were having difficulty servicing their foreign debts. A severe debt crisis erupted in that year, forcing many countries to negotiate a rescheduling of their foreign liabilities to avoid default.

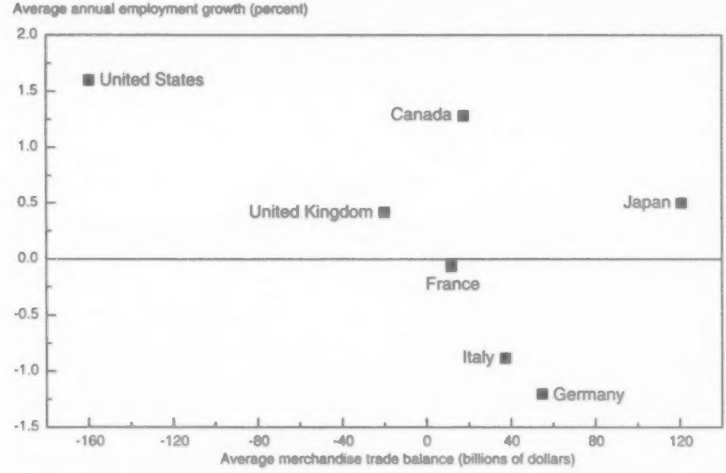
The large U.S. current account deficits of the 1980s, also driven by large fiscal deficits, were a matter of concern for the same reason. These "twin deficits," as they were labeled, led to high real interest

Chart 6-7 **Economic Growth and Trade Balances of G-7 Countries, 1992-97**
Across the major industrial countries, positive trade balances have been associated with weak economic performance.



Source: Organization for Economic Cooperation and Development.

Chart 6-8 **Employment Growth and Trade Balances of G-7 Countries, 1992-97**
Across the major industrial countries, positive trade balances have also been associated with weak employment performance, and vice versa.

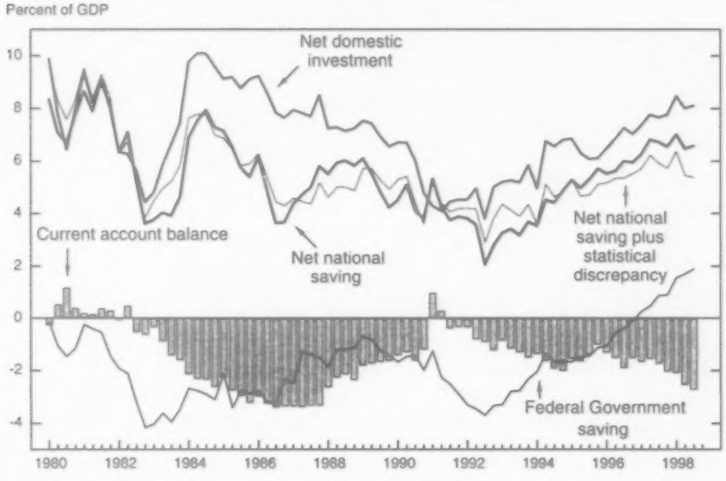


Source: Organization for Economic Cooperation and Development.

rates, a crowding out of productive investment (as evidenced by a fall in the national investment rate after its recovery from the 1982 recession), and a reduction in long-run growth opportunities. Chart 6-9 presents the U.S. current account deficit, the national and public

(Federal Government) saving rates, and the domestic investment rate. Conceptually, the current account is equal to net foreign investment, which is the difference between national saving and domestic investment; in practice, however, this equality may be obscured by measurement errors, which have been large in recent years both in the international transactions accounts and in the national income and product accounts. Thus, although over time there is a strong correlation between the current account balance and the saving-investment balance, in any given period the two measures may move in different directions. Chart 6-9 clearly shows the twin deficits of the 1980s: as fiscal deficits increased in an environment of tight monetary policy in the early 1980s, the dollar appreciated in real terms, and the current account moved into substantial deficit. The crowding out of productive investment, due to the high real interest rates associated with the fiscal deficit, is suggested by the fall in the investment rate between 1984 and 1990. The current account improved during the 1990-91 recession as the investment rate slumped sharply.

Chart 6-9 **Saving, Investment, and the Current Account Balance**
The current account deficit grew in the mid-1980s as saving fell faster than investment. In the 1990s, however, both investment and saving are increasing.



Source: Department of Commerce (Bureau of Economic Analysis).

During the 1990s the Federal budget deficit first declined, then disappeared, and finally turned to a surplus in 1998. National saving increased as a consequence, despite a decline in the personal saving rate. Even so, the current account deficit has again increased. However, this increased deficit can be viewed as virtuous, because it has been driven by an even stronger increase in the pace of domestic

investment. The U.S. gross investment rate rose from a low of 12.2 percent of GDP in the middle of 1991 to 16.0 percent in the third quarter of 1998.

The investment boom that the United States has enjoyed since 1993 has contributed to expanding employment and output and will provide payoffs for many years to come. It could not, however, have been financed by national saving alone: a current account deficit provided the additional capital inflow needed to finance the boom. In the absence of foreign lending, U.S. interest rates would have been higher, and investment would inevitably have been constrained by the supply of domestic saving. Therefore, the accumulation of capital and the growth of output and employment would all have been smaller had the United States not been able to run a current account deficit in the 1990s. Rather than choking off growth and employment, the large current account deficit, perhaps paradoxically, allowed faster long-run growth in the U.S. economy.

The Asian crisis and the current account deficit. The experience of the Asian crisis countries demonstrates that current account deficits can be dangerous not only when they finance unsustainable budget deficits but also when they finance investments of low profitability. As already noted, the crisis-afflicted East Asian economies all enjoyed high saving rates. Their large current account deficits were attributable to their even higher investment rates. Even so, the buildup of debt deriving from these current account imbalances became unsustainable, because, as discussed above, distortions in the operation of East Asian financial systems led to excessive investment in low-profitability projects. Investment-driven current account deficits enhance economic welfare only when expected investment returns exceed the cost of the borrowed funds. Throughout the East Asian region the rate of return to capital, although still positive, appears to have been falling in the 1990s, signaling a deterioration in the quality of the investment projects.

Moreover, foreign debt must be serviced and, at some point, fully repaid. Therefore, debtor countries must ultimately run trade surpluses, which may require adjustments in their real exchange rates. Borrowing in world capital markets is perhaps least problematic when the new investments it permits augment a country's capacity to produce goods for sale in foreign markets. In contrast, many Asian countries borrowed abroad to finance commercial and residential investments, producing goods, such as office buildings and houses, that are not usually traded internationally.

The U.S. international investment position. If current account deficits continue year after year, creditor countries eventually become net debtors: every year the stock of net foreign liabilities rises by an amount equal to the current account deficit (ignoring valuation effects). Not all of these liabilities consist of debt: the capital inflows

that finance current account deficits can take the form of equity investment, as in foreign direct investment. Thus an increase in a country's net foreign liabilities does not automatically translate into an increase in foreign debt, strictly speaking, but rather a decrease in the net international investment position.

Chart 6-10 shows the relationship between the U.S. current account and the change in the U.S. net international investment position (where direct investment is valued at current cost). In the 1970s the United States was a net creditor country. However, the string of current account deficits in the 1980s led to a reduction of net foreign assets and eventually, in 1987, turned the United States into a country with growing net external liabilities.

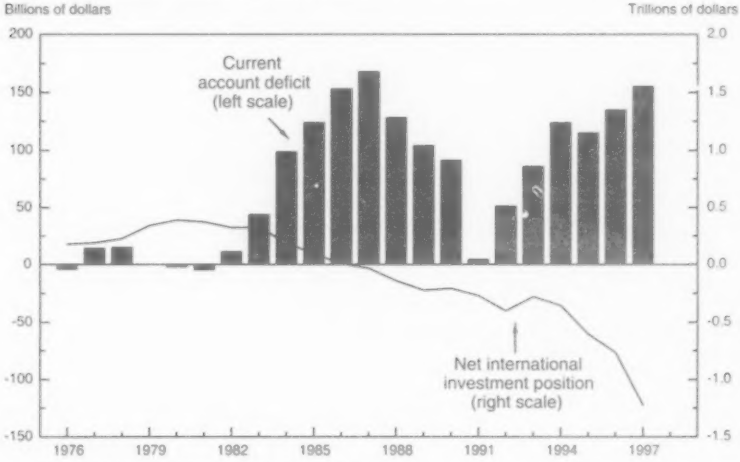
Because the U.S. current account deficits of the 1980s were primarily driven by fiscal deficits and low national saving rates, the accumulation of net foreign liabilities was greeted with some concern. The large fiscal deficits were financed by government bonds, some of which foreign investors purchased directly. Since 1993, however, current account deficits have been driven by increases in investment, with foreign financing taking the form of both direct and portfolio investment. (Chart 6-11 shows trends in both inward and outward foreign direct investment.) At present, U.S. net foreign liabilities amount to a relatively modest 15 percent of GDP.

Policies Toward the External Imbalance

Calls for protection from import competition typically increase when the U.S. trade deficit burgeons, as it has since the onset of the Asian crisis. Although the crisis has caused dislocations in some export and import-competing industries, overall employment growth remains strong in the U.S. economy. As we have argued, the growing U.S. trade imbalance primarily reflects strong investment and growth opportunities in the United States in comparison with our trade partners, rather than increased barriers to trade in foreign markets. Looked at another way, the countries affected by the crisis have been forced to reduce their own current account deficits by their sudden inability to finance those deficits through foreign borrowing. The increased U.S. trade deficit, at least through the first three quarters of 1998, primarily reflects falling exports to these economies—declines in their imports engendered by the sharp economic contractions those countries have suffered.

To restore world economic growth to its level before the crisis, the United States and other industrial countries must maintain open markets. Higher barriers to trade in the United States would not only hinder recovery in Asia and other crisis countries but provoke emulation and retaliation by our trading partners, which would hamper our own growth prospects. It is worth remembering that it was a dramatic switch to protectionist policies in the United States

Chart 6-10 **Current Account Deficit and Net International Investment Position**
As the United States started to run large current account deficits in the early 1980s, the net international investment position declined.



Note: Net international investment position at current cost.
Source: Department of Commerce (Bureau of Economic Analysis).

Chart 6-11 **Foreign Direct Investment Flows**
The 1980s saw a surge in foreign direct investment into the United States. In the 1990s, however, direct investment outflows have again surpassed inflows.

Source: Department of Commerce (Bureau of Economic Analysis).

and other industrial countries that deepened the Great Depression. As the crisis economies recover, their demand for U.S. goods and services will increase as well, once again fueling our own export growth.

Recognizing the need to maintain open markets worldwide, the President has called for a new consensus on trade, to continue to expand America's opportunities in the global economy while ensuring that all of our citizens enjoy the benefits of trade, through greater prosperity, respect for workers' rights, and protection of the environment. The President asked the Congress to join him in this new consensus by restoring his traditional trade-negotiating authority (so-called fast-track authority), to allow him to pursue an ambitious trade agenda. At the top of this agenda is a far-reaching new round of global trade negotiations within the World Trade Organization aimed at shaping the world trading system for the 21st century.

CONCLUSION

During a period of great turmoil in the global economy, the first imperative of the Administration has been to work with the international community to sustain worldwide growth. That is a prerequisite for the recovery of the countries now afflicted by crisis. No country, not even the United States, is an island in the world economy. The growth prospects of all the world's industrial nations will suffer unless all do their part. The United States and its G-7 partners have clearly recognized this imperative.

The United States remains committed to opening markets to international trade, recognizing that an open trade environment will be the best policy for domestic growth, support the recovery of the crisis-afflicted countries, and ensure the continued growth of the world economy. At the start of his Administration in 1993, the President declared, "The truth of our age is this—and must be this: Open and competitive commerce will enrich us as a nation. . . . And I say to you in face of all the pressure to do the reverse, we must compete, not retreat." Now, as then, the Administration remains strongly committed to outward-looking, internationalist policies.

Beyond working to ensure growth in the industrial world, the United States has focused since this crisis began on the need to contain financial contagion and restore market confidence so that capital flows can continue, and on the need to promote recovery and alleviate suffering in the crisis-afflicted countries. The Administration has supported the IMF in its mission of providing financial assistance to those countries in crisis that are willing to implement the often tough reforms needed to strengthen the underpinnings of their economies. At the same time, the Administration is collaborating

with other countries to strengthen the architecture of the international financial system, with the goal of enhancing its stability in a world of continued integration of global product and financial markets. These reforms of the international financial architecture are discussed in Chapter 7.

CHAPTER 7

The Evolution and Reform of the International Financial System

THE FINANCIAL PROBLEMS THAT BEGAN in Asia in the second half of 1997 have exposed weaknesses both in emerging market countries and in the international financial system. In response, the United States has taken steps, jointly with the international community, not only to contain the financial crisis but also to foster reforms of the international financial system to make it less crisis prone in the future. The recent turmoil followed a robust period of increasing integration of world product and financial markets—a trend well epitomized by the long-anticipated realization of European Monetary Union in January 1999.

The recurrence of currency and financial crises in the world economy poses major challenges to policymakers. What are the causes of these repeated crises, and of instability and financial market volatility? Are financial integration and globalization partly to blame? Does integration into modern global financial markets require the loss of macroeconomic policy autonomy? What regime of exchange rates is best for emerging market economies and other small countries in this new world of global capital mobility? Can the Bretton Woods institutions—the International Monetary Fund (IMF) and the World Bank—which were designed for a world of fixed exchange rates and limited capital mobility, still promote the stability of the international financial system in a radically different environment? What institutional framework best promotes the stability of the international financial system? Answers to these questions will be critical to efforts to strengthen the stability of the international financial system and help to ensure that global financial integration will continue to sustain prosperity and growth in the world economy.

A broad international consensus now supports reform of the global financial architecture to achieve several goals: to increase transparency (that is, to improve the availability of information about macroeconomic and financial conditions); to strengthen and reform domestic financial institutions so as to prevent crises from occurring; and to improve the mechanisms available to resolve those crises that do occur. This chapter starts by describing proposals that have been advanced in each of these three areas. It then analyzes the next steps that are being considered in the redesign of the international financial system. Finally, it considers European Monetary Union, the prospects for the euro as an international currency, and the possible implications for the U.S. dollar.

REFORM OF THE INTERNATIONAL FINANCIAL ARCHITECTURE

As explained in Chapter 1, the international community, under U.S. leadership, has proposed a set of reforms to strengthen the international financial system. These reforms, designed to reduce the incidence of future crises, are referred to collectively as the "new international financial architecture." Their aim is to create an international financial system for the 21st century that captures the full benefits of global markets and capital flows, while minimizing the risk of disruption and better protecting the most vulnerable groups in society. The work accomplished toward these goals in 1998 was only the latest stage in an evolutionary process that has been under way for some years.

FROM THE HALIFAX SUMMIT TO THE G-22 REPORTS

A broad debate on the steps needed to strengthen the international financial system was already under way when the Mexican peso was devalued suddenly in December 1994. The ensuing crisis, however, gave the debate considerable impetus and pertinence. The annual summit of the leaders of the Group of Seven (G-7) nations (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) in 1995, held in Halifax, Nova Scotia, initiated work in a number of areas. One such area was additional study of means to promote the orderly resolution of future financial crises. The finance ministers and central bank governors of the G-10 countries were asked to review a number of ideas that might contribute toward that objective. The G-10 (which actually has 11 members: the G-7 plus Belgium, the Netherlands, Sweden, and Switzerland) established a working party, which submitted a report—informally known as the Rey Report, after the chairman of the working party—to the ministers and governors in May 1996.

The report noted recent changes in financial markets that, in some cases, have altered the characteristics of currency and financial crises in emerging markets. It indicated that neither debtor countries nor their creditors should expect to be insulated from adverse financial consequences in the event of a crisis. It also called for better market-based procedures for the workout of debts when countries and firms are in financial distress. Reforms of bond contracts were proposed to encourage the cooperation and coordination of bondholders when the financial distress of a country or a corporation requires the restructuring of the terms of a bond. The report also suggested a review of IMF policies on "lending into arrears" to extend the scope of this policy to include new forms of debt. Such policies would allow the IMF to continue lending, in certain unusual and extreme circumstances, to countries that had temporarily suspended debt-service payments but

continued to maintain a cooperative approach toward their private creditors and to comply with IMF adjustment policies.

A number of important innovations came out of this reform process: the development of international standards for making economic data publicly available (under the IMF's Special Data Dissemination Standard); international standards for banking supervision (the Basle Core Principles for Banking Supervision); the decision to expand the IMF's backup source of financing under the New Arrangements to Borrow (25 participants in the NAB agreed to make loans to the IMF when supplementary resources are needed to forestall or cope with an impairment of the international monetary system, or to deal with an exceptional situation that poses a threat to its stability); and, more recently, a new financing mechanism in the IMF, called the Supplemental Reserve Facility, to help members cope with a sudden and disruptive loss of market confidence, but on terms designed to encourage early repayment and reduce moral hazard.

Despite some progress in strengthening the system, the eruption of the Asian crisis in 1997 demonstrated the importance of considering further questions regarding the operation of the international system. In November 1997, on the occasion of the Asia-Pacific Economic Cooperation leaders' summit in Vancouver, a number of Asian leaders proposed a meeting of finance ministers and central bank governors to discuss the crisis and broader issues. They suggested that participation in the meeting be expanded to include emerging market countries, not just the usual small number of major industrial countries. The President responded by calling on the Secretary of the Treasury and the Chairman of the Board of Governors of the Federal Reserve System to convene such a meeting. Finance ministers and central bank governors from 22 systemically significant countries in the international financial system (informally dubbed the Group of 22, or G-22) gathered in Washington on April 16, 1998, to explore ways to reform the system that could help reduce the frequency and severity of crises. Three working groups were formed to consider the following three sets of issues: measures to increase transparency and accountability, potential reforms to strengthen domestic financial systems, and mechanisms to facilitate appropriate burden sharing between official institutions and the private sector in time of crisis. The three working groups presented their reports in October 1998 on the occasion of the annual meetings of the IMF and the World Bank.

GREATER TRANSPARENCY AND ACCOUNTABILITY

The report of the first working group reflects the existence of a broad consensus on the need for greater transparency not only by the private sector and national authorities but by the international financial institutions (IFIs) as well. The Asian crisis made clear once more that it is important for countries to provide sufficient information

about their macroeconomic and financial conditions. The information needed includes data on the size, maturity, and currency composition of external liabilities, as well as accurate and comprehensive measures of the level of foreign exchange reserves. The crisis also underscored the need for banks and corporate enterprises to provide accurate information about their financial accounts. Without such information, outsiders cannot adequately assess the true financial condition of governments and firms. The crisis made clear as well the importance of transparency on the part of the IFIs themselves, and led to calls for the IMF and other IFIs to be more open about their activities, economic analysis, policy advice, and recommendations.

The report of the G-22 working group on transparency and accountability recommends that national authorities publish timely, accurate, and comprehensive information on the external liabilities of the financial and corporate sectors in their countries as well as their own foreign exchange positions. Published information on official foreign exchange positions would extend to both reserves and liabilities, for example those deriving from government intervention in forward exchange markets. The report recommends adherence to existing international standards for transparency and finds that standards in additional areas, including monetary policy and accounting and disclosure by private financial institutions, might be useful. The report calls for better monitoring of countries' compliance with such standards, including through IMF reporting on countries' adherence to internationally recognized standards. It also recommends that the potential for greater transparency of the positions of investment banks, hedge funds, and institutional investors be examined.

Finally, the report calls on the IMF and the other IFIs to be more open and transparent. Accountability, it argues, is important for all institutions, and unnecessary secrecy would be particularly inappropriate in institutions that are telling others to be more transparent. For example, the report recommends that IFIs adopt a presumption in favor of the release of information, except where confidentiality might be compromised. It also calls for publication of program documents, of background papers to reports following the regular yearly visit by the IMF to a member state, of public information notices following the IMF Executive Board's discussion of reports on member countries' economic conditions, of retrospective program reviews, and of other policy papers.

Increased transparency can help prevent the buildup of countries' financial and macroeconomic imbalances. In the Asian crisis, for example, more information concerning the external debt of firms and banks might have limited investors' willingness to lend to such institutions in the first place. Transparency can also encourage more timely policy adjustment by governments and help limit the spread of financial market turmoil to other countries by enabling investors to distinguish

countries with sound policies from those with weaker policies. Nonetheless, transparency alone is unlikely to be sufficient to prevent another major crisis from occurring. In Asia, greater transparency about net reserves and offshore liabilities of the financial and corporate systems might well have helped attenuate the crisis. But investors also missed many warning signals in data that were widely available. More is needed than just information.

REFORMING AND STRENGTHENING DOMESTIC FINANCIAL INSTITUTIONS

As discussed in Chapter 6, weaknesses in the financial sectors of borrowing countries now appear to have been a central cause of the Asian crisis, and of some previous financial crises as well. Commercial banks and other financial institutions borrowed and lent imprudently, channeling funds toward projects that were not always profitable. Insufficient expertise and resources in countries' regulatory institutions led to weak regulation of the financial system, and in particular to lax supervision of banks. Insurance of bank deposits was either implicit or poorly designed. Often, governments did not provide explicit deposit insurance; rather, they implicitly insured the liabilities of the banking system. Connected lending was widespread: banks and other financial firms in a business group would make loans to other firms in the group without objectively evaluating or monitoring their soundness. The result was often distorted incentives for project selection and monitoring. All these factors contributed to the buildup of severe structural weaknesses in the financial system, the most visible manifestation of which was a growing level of nonperforming loans. The growing supply of funds from abroad, facilitated in part by capital account liberalization, only heightened the problem; rising capital inflows combined with poorly regulated and often distorted domestic financial systems to create a dangerous environment.

Strengthening domestic financial systems, the focus of the second G-22 working group, will thus be a central element of ongoing systemic reform. The list of measures required is long and will take years to complete. The reforms recommended by the G-22 report include the development of liquid and deep financial markets, especially markets in securities (bonds and equities). Financial markets should be able to rely on strong prudential regulation and supervision of banks and other financial institutions, based on the Basle Core Principles of Banking Supervision and the Objectives and Principles of Securities Regulation set out by the International Organization of Securities Commissions. Appropriate restrictions on connected lending would be beneficial. The working group's report also calls on countries to design explicit and effective deposit insurance mechanisms to protect bank depositors. The report also calls for better corporate governance in both the financial sector and the nonfinancial sector, so that investment

decisions respond to market signals rather than to personal relationships. It further recommends the design and implementation of bankruptcy and foreclosure laws for insolvent firms and, more broadly, the implementation of efficient insolvency and debtor-creditor regimes, possibly including procedures for systemic bank and corporate restructuring and debt workouts for corporations in financial distress. Finally, the report advocates better coordination and cooperation among international organizations and international supervisory entities in strengthening financial systems, as well as increased technical assistance for and training of government officials and regulators.

BETTER CRISIS RESOLUTION, INCLUDING APPROPRIATE ROLES FOR THE OFFICIAL COMMUNITY AND THE PRIVATE SECTOR

Although strengthening financial systems may prevent some crises from occurring and make those that do occur less virulent, it cannot be expected to eliminate them altogether. It is therefore essential to establish means of minimizing the depth and severity of crises without undermining appropriate incentives for prudent private and public behavior. This very important task constitutes the third and final pillar of the set of international financial reforms proposed in October by the G-22 working groups.

The G-22 report on this topic identifies policies that could help promote the orderly resolution of future crises, including both official assistance and policies and procedures that could facilitate the involvement of the private sector as appropriate. It noted that recent events have highlighted how the larger scale and greater diversity of recent capital flows to emerging markets generate the risk that crises can erupt more quickly and can be larger in scope than in the past. It is of critical importance that the IMF and the other IFIs remain capable of catalyzing policy reform and the restoration of market confidence in their member countries in the event of an international financial crisis, in the context of a strong program of policy adjustment. The combination of adjustment and financing should be sufficient to resolve most payments difficulties. However, the scale of private capital flows significantly exceeds the resources that the official community can reasonably provide, even with the quota increase to bolster IMF resources and other measures. Moreover, the perception that sufficient official financial assistance may be made available to allow a country to meet all contractual obligations without some form of appropriate private sector involvement might distort the incentives of both creditors and debtors. It may encourage some creditors to take unwarranted financial risk, some debtor countries to follow inappropriate policies, and both debtors and creditors to underestimate the risks they are assuming. Although the international community will continue to provide assistance—conditioned on economic reform—to deal with the prob-

lems that have given rise to crises, mechanisms are needed to allow the private sector to participate constructively in containing crises and resolving them over time. Work is under way to find constructive and cooperative ways to "bail in" private investors.

New procedures suitable to modern markets might be usefully developed for effective management of the financial difficulties of both firms and countries. When banks accounted for the majority of international capital flows, as in the 1970s and 1980s, troubled debtors could more easily resolve a crisis through joint negotiations with a small number of banks and the IFIs. Negotiations such as those developed to address the 1980s debt crisis entailed agreements to postpone debt repayments (debt restructuring) and occasionally to reduce the overall value of the obligation (debt writedown). However, the recent proliferation of creditor institutions and instruments and the growth of international bond markets have made it harder to coordinate the actions of creditors during a crisis. Unilateral actions by troubled debtors are, on the other hand, highly disruptive and can lead to contagion, if they increase investors' concern that other countries may follow suit. This might explain why Russia's unilateral debt restructuring in August 1998 disrupted markets as far away as Latin America.

Recognizing the need for new procedures, the G-22 report includes a number of recommendations. First, it calls for a range of policies to help prevent crises and limit the severity of those that do occur. The report emphasizes that countries might want to limit the scope of government guarantees, including those covering the liabilities of financial institutions, and to make explicit those guarantees that are offered and price them appropriately (for example, through effective deposit insurance). In addition, the report endorses the development of innovative financing techniques to permit increased payment flexibility, greater risk sharing among debtors and creditors, or the availability of new financing in the face of adverse market developments such as sudden reversals of capital flows. For example, debt contracts calling explicitly for repayments contingent on the prices of key primary commodities could automatically reduce countries' debt burdens when prices move against them.

Finally, the report identifies key features of effective insolvency and debtor-creditor regimes (including bankruptcy, restructuring, and foreclosure laws) and highlights the role of such regimes in contributing to effective crisis containment and resolution. Workable procedures in these areas may be useful to encourage the prompt recovery of economic activity following a financial crisis. Among the most important basic objectives of an insolvency regime are to maximize the value of a firm's assets after its liquidation or reorganization; to provide a fair and predictable regime for the distribution of assets recovered from debtors; and to facilitate the uninterrupted provision of credit for commercial transactions by providing an orderly regime for the distribution of debtors' assets.

Other measures recommended by the working group would encourage the coordination of creditors in the event of a crisis. Following the recommendations of the 1996 Rey Report, the G-22 report proposes the inclusion of creditor coordination clauses in bond contracts. These clauses would be designed to create an environment in which all parties—creditors, debtors, and IFIs—can work together to resolve crises in the most advantageous manner possible. Collective action clauses in bond contracts could help overcome the problems to which a large number of creditors inevitably gives rise. For example, a clause allowing for the collective representation of creditors (such as through the formation of a creditors' committee) can help facilitate coordinated action among a large group of creditors. A majority action clause could prevent a small minority of creditors from impeding a debt-restructuring agreement, by allowing a qualified majority of creditors to alter the payment terms of the debt contract. Currently, most sovereign bond contracts in the United States require unanimity to restructure the terms of the contract. Similarly, sharing clauses would mandate the equal treatment of creditors by imposing a fair division of payments among them. This could discourage disruptive legal action and preferential settlements that benefit a few creditors at the expense of others.

The report also calls for new methods of crisis management in the extreme case of a temporary suspension of debt payments. Recent experience (as in Russia in 1998) underscores the fact that such suspensions and unilateral restructuring actions can be highly disruptive, especially if they substitute for policy reform and adjustment. The G-22 report argues that countries should not, and normally would not, suspend debt payments (interest and principal) until all other reasonable alternatives have been exhausted. However, suspension might occur in exceptional cases, in the event of severe and unanticipated adverse market developments. In these cases, the report emphasizes the importance for countries to rely on orderly and cooperative approaches, rather than unilateral actions, in negotiating the restructuring of contractual obligations. Unilateral action may entail significant economic and financial costs.

If a country does suspend its debt payments to private creditors, it is technically in arrears. The report argues that, in those exceptional cases when a country experiences a severe crisis and a temporary payments suspension cannot be avoided, the international community and private creditors may still have an interest in providing incentives for strong and sustained policy adjustments and structural reform. It therefore suggests that the international community can signal its conditional willingness to provide financial support, under appropriate conditions, even if a country has imposed a temporary payments suspension. The report argues that such official support should be provided only if the decision to suspend payments reflects the absence of rea-

sonable alternatives, if the government is willing to undertake strong policy adjustment, and if the government is engaged in good faith efforts with creditors to find a cooperative solution to the country's payments difficulties. An IMF policy of lending to a country that has not yet completed negotiations with private creditors, but is negotiating cooperatively and in good faith, is referred to as "lending into arrears."

A final set of recommended measures would facilitate prompt and orderly debt workouts. As outlined above, the orderly resolution of crises will require a combination of official finance, in the context of strong policy adjustment programs, and appropriate private sector involvement. Financial crises are often associated with significant financial distress in the banking and corporate sectors. Although national insolvency regimes (such as bankruptcy and corporate restructuring laws) are intended to provide an appropriate legal and institutional framework for the restructuring of corporate debt, corporate sector crises may occasionally achieve sufficient scale to threaten the solvency of a country's entire financial system, as happened in the Asian crisis.

Several measures can be undertaken to facilitate the orderly workout of the liabilities of firms in distress. One such measure is available in domestic insolvency regimes—such as corporate restructuring under Chapter 11 of the U.S. bankruptcy code—that allow distressed firms to obtain new, senior credits to ensure their ongoing operation during the restructuring of their debt. (Seniority means that the new lenders will be first in line for repayment. Without such assurance, new lenders are unlikely to come forward.) Analogously, in the international context, the report suggests that the development of better means of encouraging the private sector to provide new credits, in the event of a debt crisis or suspension of debt payments, should be considered. Otherwise, loans for basic purposes, such as working capital for production and exports, can become unavailable. In certain circumstances the government may also find it useful to develop a framework for encouraging out-of-court negotiations between private debtors and their creditors. International support can be harnessed to support restructuring efforts as well. For example, one goal of the Asian Growth and Recovery Initiative, recently launched by the United States and Japan, is to support the implementation of more comprehensive and accelerated restructuring of banks and corporations in the crisis-afflicted countries in Asia.

Implementation of the international financial architectural reforms proposed in the G-22 reports will take time. But they also promise to reduce the likelihood of future crises and the severity of those that do occur. For its part, the G-7 strongly signaled its commitment to implement many of the reforms proposed by the working groups in its October 30 declaration, a subject considered next.

ADOPTION OF MEASURES TO REFORM THE INTERNATIONAL FINANCIAL ARCHITECTURE

The release of the G-22 reports was followed by detailed discussions among the G-7 finance ministers and central bank governors and with officials from other industrial and emerging market economies. The G-7 ministers and governors agreed, in a statement issued on October 30, 1998, on specific reforms to strengthen the international financial system. In the words of their communiqué, they:

> agreed to carry these forward through our own actions and in the appropriate international financial institutions and forums. These reforms are designed to: increase the transparency and openness of the international financial system: identify and disseminate international principles, standards and codes of best practice; strengthen incentives to meet these international standards; and strengthen official assistance to help developing countries reinforce their economic and financial infrastructures. They also include policies and processes to ensure the stability and improve the surveillance of the international financial system. Finally, they aim at reforming the International Financial Institutions, such as the IMF, while deepening cooperation among industrialized and developing countries.

FURTHER STEPS TO STRENGTHEN THE INTERNATIONAL FINANCIAL ARCHITECTURE

In their October 30 statement, the G-7 countries committed themselves to a number of reforms consistent with the recommendations of the G-22 working groups, as well as a great deal of additional analysis and research. The G-7 also stressed the need for the international community to widen its efforts to strengthen the international financial system. The G-7 thus committed themselves to initiate further work in a number of other important areas to identify additional, concrete steps to strengthen the international financial architecture. These include:

- examining the additional scope for strengthened prudential regulation in industrial countries
- further strengthening prudential regulation and financial systems in emerging markets
- developing new ways to respond to crises, including new structures for official finance and new procedures for greater private sector involvement in crisis resolution
- assessing proposals for further strengthening of the IMF

- seeking to minimize the human cost of financial crises and encouraging the adoption of policies that better protect the most vulnerable in society
- consideration of the elements necessary for the maintenance of sustainable exchange rate regimes in emerging markets.

Each of these steps poses a number of issues and challenges. Many are interrelated. Some of these issues that the international community will be examining in the future are addressed below.

STRENGTHENED PRUDENTIAL REGULATION AND SUPERVISION IN INDUSTRIAL COUNTRIES

The crises of the past year have revealed the importance of strengthening prudential regulation to promote international financial stability. Global financial integration has led to a proliferation of financial institutions making cross-border transactions, to the growth of offshore financial centers and hedge funds, and to the development of a wide range of derivative instruments. In this new environment, investors may underestimate the risks they are assuming during periods of market euphoria, and thus contribute to an excessive buildup of exposures during the upswing.

Such developments pose significant challenges to financial regulators and supervisors. Regulatory incentives may be needed to encourage creditors and investors to act with greater discipline, that is, to analyze and weigh risks and rewards appropriately in their lending and investment decisions. Thus, it will be useful to examine the scope for strengthened prudential regulation and supervision in industrial countries. Here we explore some aspects of these regulatory challenges.

Enhanced International Financial Supervision and Surveillance

Traditionally, supervision and regulation of financial systems have been domestically based. But the increased global integration of financial markets and the proliferation of institutions doing cross-border transactions suggest the desirability of enhanced *international* financial supervision and surveillance. Better national and international procedures to monitor and promote stability in the global financial system might prove useful.

Although good financial supervision still must begin at the domestic level, international institutions and national authorities involved in maintaining financial sector stability must work jointly to foster stability and reduce systemic risk. They will also benefit from exchanging information more systematically about the risks prevailing in the international financial system. A useful contribution in this regard might be a policy-oriented forum including financial authorities from the G-7 countries, key emerging markets, the IFIs, and other relevant international organizations.

Another way to improve global surveillance and coordination might be to have the IFIs, working closely with international supervisory and regulatory bodies, conduct surveillance of national financial sectors and their regulatory and supervisory regimes. For this to succeed, all relevant information would need to be made accessible to them.

Strengthened Bank Capital Regulation

At the heart of the issue of bank regulation are banks' capital adequacy standards. As discussed in Chapter 6 (see Box 6-5), banks may have an incentive to make excessively risky investments, since much of the cost of failure may be borne by the government. To mitigate this tendency, banks are required to nold a certain amount of their own capital in reserve against the loans they make.

The fact that many banks are currently active on a global scale provides good reasons for common international bank capital standards. Globally active banks headquartered in countries with low capital requirements would otherwise be at an advantage over those headquartered elsewhere. In addition, by virtue of their global scale, the impact of a global bank's failure would likely extend well beyond the borders of the country in which it is headquartered.

The 1988 Basle Capital Accord established such an international bank capital standard by recommending that globally active banks maintain capital equal to at least 8 percent of their assets. In addition, the accord sought to distinguish between more and less risky assets and required that more capital be held against investments with greater risk. As a result, the 8 percent standard called for in the accord applies not to a bank's total assets but to its risk-weighted assets. Safe government bonds or cash, for example, receive a zero weight in calculating aggregate risk exposure, whereas long-term lending to banks and industrial companies in emerging markets receives a 100 percent weight. Such minimum capital standards are meant to work in conjunction with direct supervision of banks and basic market discipline to restrain excessive risk taking by banks that have access to the safety net.

Even at the time of their adoption, it was recognized that the standards called for in the Basle Capital Accord might have to be reviewed and strengthened in the face of developments in the international financial environment. Effective capital regulation is an evolutionary process, and the Basle standards have already been improved in a number of ways in the decade since their adoption, for example by the adoption of amendments covering market risk. However, recent developments have made some shortcomings of the rules for credit risk more apparent. First, the risk weights applied to broad asset categories mirror only crudely the actual risk associated with different types of assets. Second, a number of financial innovations may have made it easier for banks to assume greater risk without becoming subject to increased capital charges. Third, the current standards may

have encouraged banks in industrial countries to make short-term rather than longer term loans to banks in emerging markets. Fourth, off-balance-sheet items such as derivative positions, committed credit lines, and letters of credit may not be adequately addressed by the current standards. The task of further improving the Basle Capital Accord has just started. No consensus has yet emerged concerning the next steps in the reform of bank capital regulation. But it is likely that a strong and effective system of bank capital regulation will rely on several complementary components: strengthened capital standards; improved internal risk management controls in banks, including greater reliance on banks' own models of risk assessment; and increased reliance on market discipline.

A broad debate is certain to be waged over how to provide effective capital regulation of banks in the globalized environment in which they now operate. The Basle standards were designed for banking institutions in the G-10 countries, but the proliferation of financial institutions in emerging markets also poses the question of whether the same standards adequately address the risks faced by institutions operating in emerging markets.

The rapid development of derivative instruments and their widespread use in international financial markets pose another set of difficult regulatory issues. Derivatives are contracts written in terms of the price of some underlying asset; for example, stock options and stock futures contracts are written in terms of stock prices. Derivatives can be used to hedge risks and thus have been very useful in risk management by banks, other financial institutions, and nonfinancial firms. However, they can also be used to take speculative positions, thus increasing rather than decreasing risk. Moreover, the fact that derivative positions are recorded off the balance sheet makes it more difficult for the market and for regulators to assess their contribution to the risks taken by the institution using them. Also, because the creditworthiness of the counterparties to a derivatives transaction is not perfect, firms or banks that believe they are hedged against various risks may effectively not be.

A difficult issue concerns the type of regulatory oversight that should be put in place for derivative instruments. For example, excessive regulation of derivatives could lead the derivatives business to move to unregulated offshore markets. The President's Working Group on Financial Markets is undertaking a long-term study of derivative instruments, including their potential risks and effects. This study will review recent market developments and existing regulation and consider what regulatory or legislative changes may be appropriate. It will investigate possibilities for reducing systemic risk and eliminating legal uncertainty. It will also assess the potential use of derivatives for fraud or manipulation, and methods for curtailing regulatory arbitrage, or the exploitation of differences in regulation across different jurisdictions.

Issues Posed by Hedge Funds and Other Highly Leveraged Investment Funds

Another set of difficult regulatory issues is posed by hedge funds and other highly leveraged entities. Hedge funds in their present form represent a relatively recent innovation in financial markets. The near-failure of a prominent hedge fund in September 1998 (see Chapter 2) focused renewed attention on the role and activities of these and other highly leveraged entities.

The "hedge fund" label is usually applied to investment funds that are unregulated because they restrict participation to a small number of wealthy investors (see Chapter 2 for a broader discussion of their activities). They generally use sophisticated techniques to make targeted investments. In addition, some of them use significant leverage—that is, they not only invest their own equity capital but use sizable amounts of borrowed funds as well. Regulation of hedge funds could also prove difficult. Poorly designed regulation might, for example, lead such funds to move to unregulated offshore markets.

The impact of hedge funds and other highly leveraged entities on financial markets certainly needs to be better understood. Accordingly, the Secretary of the Treasury has called upon the President's Working Group on Financial Markets to prepare a study of the potential implications of the operation of firms such as hedge funds and their relationships with their creditors. A primary concern for regulators is to ensure that lenders appropriately manage the risks associated with extending credit to hedge funds.

The study by the President's working group will examine a number of issues, including questions relating to the disclosure of information by entities such as hedge funds and the potential risks associated with highly leveraged institutions generally. The study will also examine whether the government needs to do more to discourage excessive leverage, and if so, what the appropriate steps might be. A number of the agencies participating in the working group are also involved in several studies on the international aspects of these questions.

STRENGTHENING PRUDENTIAL REGULATION AND FINANCIAL SYSTEMS AND PROMOTING ORDERLY CAPITAL ACCOUNT LIBERALIZATION IN EMERGING MARKETS

The Asian crisis has focused attention on a wide variety of financial policies, both international and domestic in scope. Considering the central role played by financial sector weaknesses in the crisis (see Chapter 6), the case for strengthening financial systems is particularly strong in emerging markets. Accordingly, the second area in which the G-7 called for further work is the identification of concrete steps to further strengthen prudential regulation and financial systems in emerging markets. Clearly, this is an ambitious undertaking and will require

a vast number of issues to be considered and challenges to be overcome. Some of the most significant are addressed below.

Many countries have benefited significantly from the increased integration of global capital markets. But recent events have shown that integration, when countries do not have the policies and institutions in place to capture the full benefits of global integration, can also bring new risks. The right approach is to put into place the policies and institutions needed to capture the full benefits of financial integration.

Remarkably, very few countries have been tempted to turn inward as a result of the recent crisis. However, instead of facing the challenges of strengthening their financial institutions, a few have in effect decided to eschew the benefits of international capital flows by introducing controls on capital outflows as a way to prevent "destabilizing" capital flight. However, many considerations argue against the use of capital controls in a crisis. First, controls on outflows are often in practice administered in institutional frameworks in which they are used to extract economic rents and delay necessary reforms. Elaborate foreign exchange controls thus lead to corruption, besides distorting international trade. In any case, investors often find ways to avoid the controls over time. Moreover, capital controls may divert attention from the need to address policy distortions that lead to excessive borrowing, such as inadequate prudential supervision and regulation of the financial system. Reliance on targeted controls might eventually also lead countries to use capital controls indiscriminately, thus insulating unsound macroeconomic policies from the discipline of the marketplace. Capital controls and other domestic capital market restrictions also serve as a form of financial repression—a distortionary type of taxation—that reduces the incentive to save. Studies show that capital controls in Latin America in the aftermath of the 1980s debt crisis led to negative real interest rates, which eventually provoked more flight of capital out of the country rather than less. Finally, controls on outflows may discourage capital *inflows*, since foreign investors will then fear they may not be able to repatriate the proceeds of their investments in the future. Fears of the imminent imposition of controls on capital outflows can actually accelerate rather than avoid or postpone a crisis, and they can lead to perverse international contagion. For example, news of the imposition of capital controls in Russia and Malaysia in August 1998 was a factor in the spread of financial panic to Latin America and other emerging markets.

The Benefits of Free Capital Mobility

The arguments for free capital mobility are numerous, especially when domestic financial systems are strong and properly supervised and regulated. The United States and most other leading industrial countries, for example, do well without capital controls. First, with unrestricted capital mobility, the market is free to allocate saving to

the best investment opportunities, regardless of where in the world those opportunities are. Investors can then earn a higher rate of return than they could if limited to the domestic market. Second, firms and other borrowers in high-growth countries can obtain funds more cheaply abroad in the absence of controls than if they had to finance their investments at home. Third, free capital mobility allows investors and households to diversify risk; access to foreign investment opportunities enhances the benefits of portfolio diversification. Fourth, the scrutiny of global investors can provide an important discipline on policymakers. Well-functioning capital markets can discourage excessive monetary and fiscal expansion, since inflation, budget deficits, and current account deficits quickly lead to reserve outflows and currency depreciation. Logically, a case for restricting capital mobility requires the identification of distortions in the market allocation of capital.

Increasing the Resilience of Financial Systems

Although introducing controls on outflows is not a desirable response to a crisis, international capital inflows can reverse suddenly, and openness potentially does make emerging economies more vulnerable to such reversals. As a result, policies to increase the resilience of financial systems might be usefully identified, to make countries less vulnerable to these crises. These include effective prudential regulation and supervision of financial markets, as discussed above. The G-7 has suggested investigating concrete means of encouraging emerging market economies to adopt international standards and best practices. In addition, countries could take several steps to reduce the vulnerability of their financial systems. For example, they can encourage greater participation in their markets by foreign financial institutions. They can foster a better credit culture in the banking system. They can rely more on equity and other financing that does not result in the buildup of excessive debt burdens. They can implement an orderly and progressive liberalization of their capital accounts. And in some circumstances they might find it useful to rely on restraints on some short-term capital inflows, in the context of sound prudential regulation of the banking system.

The Orderly Liberalization of Capital Flows

Most emerging market economies have historically placed heavy restrictions on their capital markets. One result of the recent crisis is a growing consensus that capital market liberalization has to be carried out in a careful, orderly, and well-sequenced manner if countries are to benefit from closer integration into the global economy. As discussed in Chapter 6, however, if domestic financial systems are weak, poorly regulated, and subject to institutional distortions, rapid capital account liberalization can lead to excessive short-term borrowing and lending and a mismatch of maturities and currency denominations in the

assets and liabilities of both financial institutions and nonfinancial firms. To reduce the risk of financial and currency crises following liberalization, effective regulatory and supervisory regimes must be in place, and the financial sector must be poised to deal adequately with these risks.

It may prove useful to develop principles to help guide countries that are liberalizing and opening their capital markets, to help reduce the vulnerability of their financial systems to sudden shifts in capital flows. Possible measures include, for example, a policy of openness to foreign direct investment and promotion of longer term equity financing. Conversely, some support consideration of measures to restrain cross-border short-term interbank flows into emerging markets, because such flows are likely to be both volatile and vulnerable to distortions arising from financial safety nets.

Prudential Regulation of Short-Term Interbank Cross-Border Inflows

One approach to ensuring the stability of short-term interbank flows is through enhanced prudential banking standards. On the borrower side, a range of possible measures could be considered to help discourage imprudent foreign currency borrowing, while relying on market mechanisms to the extent possible. Prudential bank standards, such as limits on a bank's open foreign currency positions, if enforced effectively, could reduce the riskier kinds of foreign borrowing by banks. Some countries have experimented with regulatory requirements that force their banking systems to maintain "liquidity buffers" to protect against the risk of sudden shifts in funds out of the banking system. Argentina, for example, has required banks to maintain large, liquid reserves against their short-term liabilities, including their short-term foreign liabilities.

Greater prudence in the use of short-term, cross-border interbank flows could also be encouraged on the lender side. This could be accomplished through prudential regulation of the international short-term lending of banks in the industrial countries, so as to encourage more careful lending to emerging market entities that operate in weak financial systems.

Should There Be Broader Controls on All Short-Term Capital Inflows?

More controversially, some have suggested wider use of market-based restraints on all short-term capital inflows, to deter short-term foreign borrowing not just through banks but by other means as well. Chile is one country that has taken this approach. In some countries, nonfinancial firms are reported to have undertaken large-scale risky cross-border borrowing directly, rather than via the banking system, in the leadup to the crisis in Asia, for example. It has been argued that

regulation of inflows to banks alone would lead to evasion through direct cross-border borrowing by nonfinancial firms. It has also been argued that taxes on general inflows may help in the management of monetary policy when surges in inflows create difficult problems, such as how to "sterilize" their impact and avoid an inflationary surge in the money supply.

The effectiveness of such controls has been questioned, however. Evasion and leakages tend to make capital controls less effective over time. Also, the apparent success of Chile may have been due more to that country's very effective prudential regulation and supervision of its financial system and fairly sound macroeconomic policies than to capital controls. Finally, such controls have tended to favor large corporations (which are more capable of raising funds directly in international financial markets) at the expense of small and medium-size ones.

The available empirical evidence from countries that have imposed controls on a broad range of short-term capital inflows shows that they do appear to have affected the composition of inflows. Controls have steered inflows away from instruments of short-term maturity and toward longer term instruments and foreign direct investment. They do not appear to have affected the overall volume of capital inflows. Opponents of controls point out that, during the recent financial turmoil, Chile, Colombia, and Brazil have all reduced their controls in order to stimulate urgently needed capital inflows and reduce pressures against their currencies. Proponents reply that these moves do not undermine the rationale for controls. Their purpose is to slow down short-term capital inflows temporarily during a cyclical phase where such inflows are feared to be excessive. In the outflow phase of the cycle (and especially in time of crisis), it is argued that it is sensible, and not inconsistent, to remove the controls. Evidence on the appropriateness of Chilean-style controls is not only mixed but preliminary and based on the experience of a limited set of countries. Given the numerous arguments on both sides, policies to restrict all short-term inflows remain quite controversial.

Alongside the policies needed to strengthen financial systems, a number of other policies are beneficial in developing countries to enhance financial stability, foster long-term economic growth, and limit their vulnerability to shifts in global capital. Countries need sound and consistent monetary and exchange rate policies, as well as fiscal policies that avoid excessive accumulation of government debt. Although short-term and foreign currency borrowing can be very appealing to a government, because it is cheaper and often easier in the short run than borrowing long term and in local currency, too much of this kind of borrowing makes countries vulnerable to sudden shifts in investor confidence. Sound public debt management is important to insure against the risk of market disruptions.

DEVELOPING NEW APPROACHES TO CRISIS RESPONSE

Any regime designed to respond to international financial crises must provide some combination of external financial assistance and domestic policy changes. The provision of large-scale official international finance raises difficult questions concerning the criteria that should govern access to such assistance, the appropriate terms, the links (if any) to private sector involvement, and the sources of funding. Reform of the present regime also requires the consideration of new procedures for coordinating the relevant international bodies and national authorities, alongside greater participation by the private sector in crisis prevention and resolution.

New Structures for Official Finance

The recent global financial turmoil points to the usefulness of developing new ways for the international community to respond to crises. This entails exploring the possibilities of new structures for official finance that better reflect the evolution of modern markets. In their October 30 declaration the G-7 agreed that, in response to the current exceptional circumstances in the international capital markets, strengthened arrangements for dealing with contagion will be beneficial. They called for the establishment of an enhanced IMF facility that would provide a contingent short-term line of credit for countries pursuing strong IMF-approved policies —that is, those cases where problems stem more from contagion than from poor policies. This would be a departure from traditional IMF packages, which are disbursed in a series of stages, or tranches, to encourage borrowers to adhere to strict policy conditionality. This facility could be drawn upon in time of need and would entail appropriate interest rates along with shorter maturities. The facility would be accompanied by appropriate private sector involvement.

The rationale for a precautionary facility is that countries with sound economic policies may be subject to attack because of contagion. The international community has a role to play in international financial crises, by intervening, when appropriate, to help limit contagion and global instability. It may make sense in today's world of large and sudden liquidity needs for more official money to be made available up front in return for policy changes that are likewise more up front. The Congress' agreement in 1998 to support an increase in the IMF quota will provide the IMF with an important pool of new, uncommitted funds. The U.S. contribution that Congressional action made possible will be strongly leveraged through the contributions of the other IMF members.

The Continued Need for Greater Private Sector Participation

As described earlier in this chapter, the G-22 working group report on international financial crises pointed to the need for future work to develop new procedures for orderly and cooperative crisis resolution, to

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complement the role of official finance. The G-7 has called for similar work as part of the next steps identified in its October 30 Declaration. The size, sophistication, and heterogeneity of recent international capital flows have reduced the relevance of the procedures used in the past when the private sector was involved in the resolution of severe international financial crises. These procedures were developed during an era when a small number of large international banks were the source of most capital flows to emerging markets. There is now a need to develop innovative ways for holders of new financial instruments to participate constructively in crisis containment and resolution. Also, innovative financing techniques, such as prenegotiated contingent lines of credit and financial provisions that provide greater explicit sharing of risk between creditors and debtors, are two avenues, among others, worthy of exploration.

STRENGTHENING THE IMF

With the IMF's resources recently augmented, the institution's members need to be sure that its policies effectively address the new challenges of the global economy, and to provide the necessary political oversight and guidance to accomplish this objective. An enhanced IMF facility to provide a contingent line of credit, as discussed above, would constitute a significant adaptation and strengthening of the IMF's policies for crisis prevention and resolution to reflect the evolution of the global economy. Another area where policies could be strengthened is in the concerted use of periodic reviews of members' economies, to promote greater transparency of policies and compliance with standards or other expressions of best practice in areas relevant to the effective conduct of economic policy. One aspect of transparency of particular importance concerns encouraging the publication, by those countries that rely on global capital markets, of key economic data as set forth in the Special Data Dissemination Standard, which has been in effect on a voluntary basis since 1996. The IMF's own transparency could also be further improved by such steps as more widespread public release of information on the policy deliberations of the IMF's Executive Board. This could be accomplished along the lines of the procedures for the IMF's periodic reviews, mentioned above, whereby the country under review may assent to a press release. In all these areas, the IMF will need to ensure that its work continues, as warranted, to be closely coordinated with other international entities, such as the World Bank.

It will also be important to ensure that the IMF's Interim Committee, as the body designed to provide ministerial-level guidance to the work of the IMF on a regular basis, is able to continue to provide effective political-level oversight and direction of the IMF in a manner that reflects the evolving nature of the challenges of the international financial system. Consideration of proposals to achieve this objective

is in progress. Any changes adopted will need to be consistent with the parallel objective of strengthening the World Bank's Development Committee, which is the comparable entity for that organization.

MINIMIZING THE HUMAN COSTS OF FINANCIAL CRISES

The sharp recessions in East Asia have led to a steep increase in both unemployment and poverty in that part of the world, inflicting severe social costs. More attention must be given in time of crisis to the effect of economic adjustment on the most vulnerable groups in society. Thus, strengthening social safety nets in crisis countries is also an important goal of stabilization packages. Ways must be found to minimize the human cost of financial crises and encourage the adoption of policies that better protect the most vulnerable in society. Just as important, countries should be encouraged to establish minimal social services for their populations, so as to be prepared to weather financial crises and other such shocks.

The Administration has been working with the world's multilateral development banks (MDBs; these include the World Bank and the regional development banks) to provide increased social safety nets in the countries in crisis, to help the least advantaged citizens in those countries who are experiencing hardship. The G-7 have asked the World Bank to develop, in consultation with other relevant institutions, general principles of good practice in social policy. These should then be drawn upon in developing adjustment programs in response to crises. The World Bank and the regional MDBs are well positioned to provide adequate spending in the areas of health and education—two of the most crucial areas in which the MDBs should focus their resources. Plans for employment creation, support for small and medium-size enterprises, and support in the development of unemployment insurance and pension plans are needed as well.

SUSTAINABLE EXCHANGE RATE REGIMES FOR EMERGING MARKETS

Exchange rate regimes are institutional choices that signal policies, priorities, and commitments. They vary in their rigidity. The choices go beyond fixed versus floating rates. They range from institutional arrangements like monetary unions, dollarized regimes, and currency boards to conventional fixed exchange rates, crawling pegs, basket pegs, managed floats, and free floats. No single exchange rate regime is best for all countries at all times; rather the choice must be based on a country's circumstances.

The choice of an appropriate exchange rate regime for emerging market economies is particularly difficult, given that many emerging markets have extensive trading ties to a number of major industrial economies, and that the credibility of the policy environment in many

emerging markets will take time to establish. No matter what exchange rate regime a country chooses, it is critical that it be backed by strong financial regulation and appropriate monetary and fiscal policies. Macroeconomic stability is based on good policies, irrespective of the exchange rate regime. Policy mistakes that contribute to a currency crisis can occur under any exchange rate regime.

The three goals of financial market openness, monetary policy independence, and exchange rate stability are not conceptually consistent—indeed, these goals are sometimes called the "impossible trinity." There are tradeoffs among these goals: a country can attain any two out of the three, but not all three; it must give up at least one. As we have seen, most countries have moved in the direction of increasingly open capital markets. For them the choice narrows to the other two goals. With perfect capital mobility, a country choosing a fixed exchange rate loses its ability to pursue an independent monetary policy; conversely, an autonomous monetary policy can be pursued only if the exchange rate is allowed to move flexibly. Therefore, a choice must be made between exchange rate fixity and monetary policy autonomy if free capital mobility is to be maintained.

Benefits of Fixed Exchange Rate Regimes

Why would a country choose to fix its exchange rate, if it must give up a large part of its monetary independence to do so? There are a variety of reasons. One is that by eliminating exchange rate risk, a fixed exchange rate regime may encourage international trade and finance. However, the evidence on the effects of exchange rate stability on trade volumes is mixed. The effects on trade and finance may be greater if a country goes beyond fixing its exchange rate and simply adopts the currency of another country, through monetary union or dollarization.

Another potential benefit of fixed rate regimes is that they can foster monetary discipline. The loss of monetary autonomy under fixed exchange rates limits the ability of monetary authorities to pursue excessively expansionary and inflationary monetary policies. Thus, such a regime can be an important signal of policy commitment to achieving and maintaining low inflation, especially when countries are seeking a rapid retreat from conditions of high inflation or hyperinflation, as part of a consistent plan for macroeconomic stability.

By reducing the ability of monetary authorities to monetize fiscal deficits, a fixed rate regime may also restrain tendencies toward loose fiscal policy. Adopting a fixed exchange rate does not, however, automatically instill policy discipline. Rather, a fixed exchange rate regime or a currency board *requires* fiscal discipline and a strong financial system to be credible. (A currency board is a particularly rigid variety of fixed rate regime that issues only as much domestic currency as is backed by foreign exchange reserves; see Box 7-1 for a discussion.)

Box 7-1.—Currency Boards

A currency board is a monetary institution that only issues currency to the extent it is fully backed by foreign assets. Its principal attributes include the following:

- an exchange rate that is fixed not just by policy, but by law
- a reserve requirement stipulating that each dollar's worth of domestic currency is backed by a dollar's worth of reserves in a chosen anchor currency, and
- a self-correcting balance of payments mechanism, in which a payments deficit automatically contracts the money supply, resulting in a contraction of spending.

By maintaining a strictly unyielding exchange rate and 100 percent reserves, a government that opts for a currency board hopes to ensure credibility.

The first currency board was established in Mauritius, at that time a colony of Great Britain, in 1849. The use of currency boards eventually spread to 70 British colonies. Their purpose was to provide the colonies with a stable currency while avoiding the difficulty of issuing sterling notes and coins, which were costly to replace if lost or destroyed. The colonies also benefited from this arrangement in that they could earn interest on the foreign currency assets being held in reserve. The use of currency boards peaked in the 1940s and declined thereafter. In the 1960s, many newly independent African countries replaced their currency boards with central banks, and most other countries followed suit in the 1970s.

The introduction of currency board-like arrangements in Hong Kong (1983), Argentina (1991), Estonia (1992), Lithuania (1994), and Bulgaria (1997) constitutes a small resurgence in their use worldwide. A currency board can help lend credibility to the policy environment by depriving the monetary authorities of the option of printing money to finance government deficits. Argentina, for example, has benefited from the credibility inspired by its currency board regime. Argentina was prompted to adopt such a regime, which it calls the Convertibility Plan, because of a dramatic hyperinflation in the 1980s and the absence of a credible monetary authority. Since 1991 the country has become a model of price stability and has achieved laudable growth rates, except during the recession brought on by the tequila crisis in 1995, from which it has rebounded. By most accounts, the currency board has worked for Argentina.

Characteristics that suit countries to be candidates for currency boards are the following: a small, open economy; a desire for further close integration with a particular neighbor or trading

Box 7-1.—*continued*

partner; a strong need to import monetary stability, because of a history of hyperinflation or an absence of credible public institutions; access to adequate foreign exchange reserves; and a strong, well-supervised, and well-regulated financial system. Advocates of currency boards have pushed for their wider use—in particular, for Indonesia, Russia, and Ukraine. However, proclaiming a currency board does not automatically guarantee the credibility of the fixed rate peg. A currency board is unlikely to be successful without the solid fundamentals of adequate reserves, fiscal discipline, and a strong and well-supervised financial system, in addition to the rule of law.

Benefits of Exchange Rate Flexibility

Exchange rate flexibility offers several benefits. Most succinctly, as already noted, it allows greater monetary independence. Flexible exchange rate regimes allow a country to pursue a different monetary policy from that of its neighbors, as it might want to do, for example, when it is at a different stage of its business cycle. In addition, a flexible rate regime can facilitate a country's adjustment to external shocks, such as the swings in capital flows and the terms-of-trade shocks that have been factors in recent crises. Finally, flexible exchange rates make the risk of foreign currency-denominated borrowing by banks and firms explicit. This may help discourage the accumulation of unhedged foreign currency liabilities.

Many episodes of currency crisis in the 1990s, discussed in Chapter 6, occurred under regimes where exchange rates were either fixed or kept in a narrow band. Semi-fixed exchange rate regimes and policies of exchange rate-based stabilization have at times led to real currency appreciations that worsened a current account deficit and helped trigger a crisis. Maintaining fixed rates long into the aftermath of an exchange rate-based stabilization can lead to a real appreciation (due to residual inflation) and a deteriorating trade balance, which can eventually undermine the fixed rate regime if it is not supported by consistent policy regimes. Some countries have made strong institutional commitments to a rigidly fixed regime; others could benefit from increasing flexibility during periods of macroeconomic and financial stability, when the move to flexibility may be less disruptive.

One form of fixed exchange rates that is even more extreme than a currency board is a monetary union, which solves the problems of credibility and speculation automatically. The next section discusses the prospects of European Monetary Union and whether Europe represents an "optimum currency area."

EUROPEAN ECONOMIC AND MONETARY UNION

The European response during the 1990s to the challenges presented by financial globalization has been to continue the process of economic and financial integration of the continent. As part of this process, 11 members of the European Union embarked on a project of monetary unification, which took effect on January 1, 1999, with the third stage of European Economic and Monetary Union (EMU). European integration raises some of the same analytical issues and policy challenges as the integration of the emerging market countries into the world financial system.

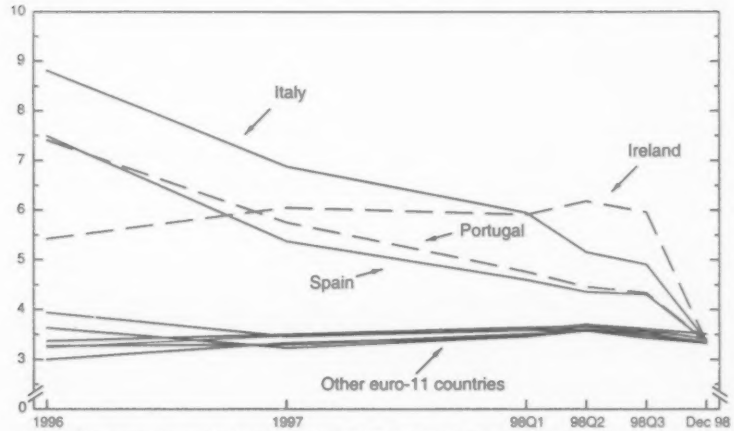
THE EMU SCHEDULE

In a summit meeting in the spring of 1998, the heads of the EU governments decided that EMU should proceed as envisioned in the Maastricht Treaty of 1991 to its third stage, monetary unification. The founding members of EMU were selected on the basis of assessments, made by the European Monetary Institute (the forerunner of the European Central Bank) and the European Commission, as to whether they had met the Maastricht Treaty's economic convergence criteria in 1997. Members were required to have had government deficits and total debt that were no greater than 3 percent and 60 percent of gross domestic product (GDP), respectively. In addition, their inflation rates and long-term interest rates had to have been within 1.5 and 2 percentage points, respectively, of the average of the three EU countries with the lowest inflation and interest rates. Finally, members' currencies must also have stayed within the EU Exchange Rate Mechanism bands for 2 years.

Twelve of the 15 EU members wished to participate in EMU from its inception, and 11 of these were found to satisfy the criteria (only Greece was not). This, in part, reflected remarkable progress toward fiscal consolidation, since the targets had seemed out of reach for members such as Italy a mere year or two before. Of the other three EU countries, Denmark and the United Kingdom had opted not to join EMU for the time being, whereas Sweden had chosen not to qualify by remaining out of the Exchange Rate Mechanism.

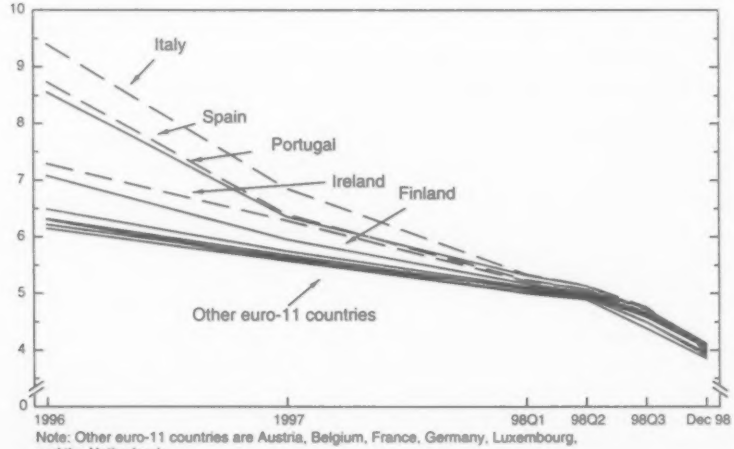
The remarkable convergence of financial conditions in the European countries is clear from data on the 11 EMU countries' short-term and long-term interest rates (Charts 7-1 and 7-2), which show a sharp convergence after 1996. Differences in interest rates across countries can be due to two major factors: a currency premium related to the risk of devaluation, and a country premium related to the possibility of default on the public debt. With monetary union to start in January 1999, short-term interest rates had converged by late 1998, as currency risk was eliminated (default risk is already close to zero for very

Chart 7-1 **European Short-Term Interest Rates**
As European Monetary Union approached, short-term interest rates in the euro-11 area fully converged.
Percent



Note: Other euro-11 countries include Austria, Belgium, Finland, France, Germany, and the Netherlands.
Source: European Central Bank.

Chart 7-2 **European Long-Term Interest Rates**
Long-term interest rates have sharply converged with the approach of European Monetary Union.
Percent



Note: Other euro-11 countries are Austria, Belgium, France, Germany, Luxembourg, and the Netherlands.
Source: European Central Bank.

short-term public debt). Even after monetary union, differences among long-term interest rates may remain, as different EMU countries with different stocks of public debt may be perceived as having different default probabilities. However, long-term interest rates among the 11 countries (collectively called the euro-11 area) had converged quite sharply by the fall of 1998 as well.

In July 1998 the European Central Bank came into existence. On January 1, 1999, a single currency, the euro, was created as the currency of the 11 EMU countries. On the same date the European Central Bank took control of monetary policy in these countries. Existing national notes and coins will continue to circulate until euro cash is introduced, but the mark, the franc, the lira, and the rest are no longer separate currencies. Rather they are "nondecimal denominations" of the euro, locked in to it at permanent conversion rates. (By analogy, U.S. dollar bills are issued in the 12 Federal Reserve districts around the country and carry a circular seal with a letter inside denoting the district from which they come. However, Europeans will continue for some time to be far more aware of the geographic origin of the currency they carry than Americans are.) Only in 2002 will euro cash enter into circulation and national currencies be phased out. This transition period is necessary because authorities need time to print the banknotes and mint coins. Retailers and banks also want time to prepare, and governments have to consider how to change their services over to the use of the euro.

Although euro cash will be introduced only in 2002, many changes will occur in the 3 years between now and then. Government bonds issued after 1999 will be denominated in euros. Almost all outstanding issues of marketable government debt by the participating countries were redenominated in euros at the end of 1998. Moreover, several large European companies plan to begin accounting in euros in 1999. Such a move may lead smaller firms to follow. Even businesses that do not switch their internal accounting to euros may quote prices in euros for trading before 2002. Consumers and the public sector are likely to be using national currency units until 2002. In general, European governments agreed that there will be no compulsion and no prohibition in the use of the euro between 1999 and 2002.

THE BENEFITS AND POTENTIAL COSTS OF EMU

EMU offers several potential benefits. Transactions costs in trade among the members will be lowered, as exchange rate risk and currency transactions within Europe will both be eliminated; the ensuing goods market integration and enhanced price competition will be beneficial to consumers. Integrated European financial markets will be broadened and deepened. Price discipline will be preserved by the independent European Central Bank, which is committed to price stability. It is hoped that fiscal discipline will also result, since, as the

members agreed in a separate Growth and Stability Pact, membership requires maintenance of a disciplined fiscal policy. (According to the pact, fines may be imposed on countries found to be running excessive deficits.) Participation in EMU thus eliminates national monetary policy and limits the scope of fiscal policy as a stabilization tool. This loss of macroeconomic tools to address cyclical unemployment makes more urgent the need for European structural reforms, for example to increase flexibility in the labor market. In this sense it is hoped that EMU might serve as discipline to nudge European countries to implement structural reforms more rapidly and eliminate impediments to sustained growth.

The creation of a large region of monetary stability is a commendable culmination of the 50-year process of economic, social, and political integration that has taken place in Europe. Indeed, the original motivation for economic integration in Europe was to ensure that the countries in the heart of Europe, which had fought three major wars over the preceding 100 years, never do so again. This is one reason why, in historical perspective, European integration has always been in the political interest of the United States. But the United States will also benefit in an economic sense, as a trading partner with Europe, from strong economic performance there, which the single-currency project may enhance in the long run. As long as Europe remains open to trade, what is good for Europe economically is good for Americans.

However, EMU also entails some potential costs. Most important, the loss of monetary autonomy deprives countries of a tool to respond to asymmetric national shocks —unexpected economic developments that affect some countries differently than others. Similarly, exchange rate changes are another instrument for coping with such shocks, but with EMU this tool will also no longer be available. Without these tools, flexibility of wages and labor mobility across regions and industries are the major mechanisms of adjustment. But labor mobility is much lower among the nations of Europe than, for example, among the American States. Fiscal policy can also play a stabilization role, but again, the rules for EMU membership constrain countries' ability to use that tool. Finally, Europe also lacks a centralized system of taxes and transfers comparable to that of the United States to cushion against regional and national shocks. Limited labor mobility, structural labor market rigidities, and decentralized and constrained fiscal policies could imply that Europe does not satisfy the criteria for an optimum currency area (Box 7-2) as clearly as do the States of the United States.

Although these potential costs of EMU have some relevance, some of the objections to EMU have been exaggerated. For example, although monetary policy is a potent policy tool for mitigating cyclical unemployment (that caused by shocks affecting aggregate demand for a country's goods and services), it has little long-run impact on

Box 7-2.—Is Europe an Optimum Currency Area?

The theory of optimum currency areas provides a set of criteria by which to identify groups of countries that are likely to benefit from membership in a common monetary union. Some research suggests that the nations of the European Union are less well suited to a common currency than are, for example, the States of the United States. Yet Europe is becoming increasingly integrated over time, and this may tip the balance in the direction of satisfying these criteria in the future.

Common rather than national shocks. Why do countries ever need independent currencies? If a country (or other geographic region) suffers an adverse shock, such as a fall in demand for its products, it may want to follow a more expansionary monetary policy, to stimulate demand and head off unemployment. Yet it cannot do so if it does not have an independent currency. Conversely, only common shocks can be properly addressed by a unionwide change in monetary policy.

For example, in the early 1990s Germany experienced a sudden increase in interest rates, as a result of unification, which led to an increase in western German spending in the eastern länder. It was difficult for other European countries to accept this increase in German interest rates, because it did not suit their own economic conditions. The resultant strains broke apart Europe's Exchange Rate Mechanism in 1992-93, although it was later restored.

A high degree of labor mobility. Labor mobility is an important criterion for an optimum currency area: a region that has this means of adjustment available has less need for monetary independence. In the event of an adverse shock in one country, workers can simply move to other countries or regions with stronger economies. Although this might not appear to be an attractive solution, it turns out that interstate migration is the most rapid means of adjustment (more rapid than changes in wage levels, for example) to economic downturns within the United States. Labor mobility among the European countries is much lower than in the United States. Thus, by the labor mobility criterion, European countries are less well suited to a common currency than are the American States.

The existence of a federal system of fiscal transfers. When disparities in income do arise in the United States, Federal fiscal policy helps narrow them. One recent estimate suggests that when a region's income per capita falls by $1, the final reduction in its disposable income is only 70 cents. The difference, a 30 percent Federal cushioning effect, comes about both through an automatic decrease in Federal tax receipts and

Box 7-2.—*continued*

through an automatic increase in unemployment compensation and other transfers. The cushioning effect has been estimated at a lower 17 percent in the case of the Canadian provinces. European countries have greater scope for domestic fiscal stabilization than do American States. There are also some cross-country fiscal transfer mechanisms. But neither the fiscal transfer mechanisms already in place within the European Union nor those contemplated under EMU (the so-called cohesion funds) are as large as those in the U.S. or the Canadian fiscal system.

At least by the theoretical criteria of labor mobility and availability of fiscal transfers, then, the European Union is not as good a candidate for a monetary union as the United States. European countries may be less adaptable to adverse shocks than American States. This suggests that, if shocks occur in the coming decade that affect EU members as differently as did the German unification shock of the early 1990s, governments in those countries adversely affected could experience popular resentment against what for them will be the insufficiently expansionary monetary policies of the rest.

The prospects for EMU. There is good hope, however, for a successful EMU. The degree of integration among the EU countries is increasing decade by decade. International labor mobility, for example, is likely to be higher in the future than in the past. The Schengen convention now allows free movement of citizens among a subset of European countries. Thus, the European countries may come to satisfy the textbook criteria of an optimum currency area in the future, even if they do not do so fully now.

unemployment caused by such structural rigidities as labor market inflexibility or real wage rigidity. Such conditions result in high levels of the full-employment unemployment rate (the lowest rate of unemployment consistent with stable inflation—also called the nonaccelerating-inflation rate of unemployment, or NAIRU) in many European countries and in such chronically depressed regions as southern Italy. These problems must be addressed through structural reform, with or without monetary union.

Second, the scope for fiscal expansion is also limited in Europe, because fiscal deficits and debt-to-GDP ratios remain high in a number of countries. Fiscal consolidation must therefore continue with or without EMU; in this sense, EMU may not be a strong constraint.

Third, asymmetric shocks and limited factor mobility may diminish over time as EMU itself leads to greater real integration among the European economies (see Box 7-2). For example, as intra-European trade continues to grow in response to European integration and EMU, the creation of a common free market for goods, services, and factors of production could make idiosyncratic national shocks less prevalent, if it reduces the geographical concentration of industries in certain countries.

Finally, it has been argued that EMU is likely to exert discipline in favor of structural reform. As there will be no national monetary and exchange rate policies, and fiscal policy autonomy will be constrained, the ability to use instruments of macroeconomic policy to delay structural market reforms will be reduced; governments will then have stronger incentives to pursue policies that further long-run economic growth. Critics of this view contend, however, that EMU could actually slow the drive for structural reforms: because reforms are socially costly, the flexibility deriving from monetary, exchange rate, and fiscal discretion could ease the transition costs as resources are reallocated. With EMU, the absence of these social shock absorbers may slow structural reform.

THE EURO AS AN INTERNATIONAL CURRENCY AND THE IMPLICATIONS FOR THE DOLLAR

Monetary union in Europe is a positive development that could simultaneously benefit the continent itself, the United States, and the world economy. Some have expressed concern, however, that a strong European economy and the emergence of the euro as an alternative international currency, rivaling the dollar, are likely to harm the United States. Such concerns are largely misguided. The United States has long benefited from a prosperous, growing Europe, and ever since the Marshall Plan, U.S. policy has supported the development of strong market economies on that continent. The United States will benefit from an open and integrated economic area in Europe. American producers will be able to export to a large, integrated European market with no cross-national restrictions on trade. U.S. firms producing in Europe will benefit from the lack of exchange rate volatility, common standards for goods and services, and a large, open market. Indeed, U.S. corporations have more experience selling into a large, unified market than do their European counterparts. American financial institutions, in particular, are already quite competitive in commercial and investment banking services and securities products and can benefit from the opportunities provided by the broadening and deepening of integrated European financial markets.

The emergence of the euro as an international currency should not be viewed with alarm, for a number of reasons. Even if the euro emerges as a strong international currency, the negative effects on U.S. economic welfare are likely to be small and outweighed by the

advantages of EMU to U.S. residents, as already described. And in any case the euro is unlikely to rapidly displace the dollar as a major international currency, given that the foundations of the successful performance of the U.S. economy remain intact. International currency status does not automatically follow from a currency's possession of a large home base.

The Functions of an International Currency

What does it mean to be a major international currency, and is it likely that the euro will become one? A currency has three main uses: it can be used as a means of payment, as a unit of account, and as a store of value. An international currency is simply one that is also used outside its home country for these three purposes. Within each of the three functions, an international currency has both official and private uses.

In money's *store-of-value* function, investors decide how much of their wealth to hold in the form of assets denominated in various currencies. Will public and private investors hold a fraction of their portfolios in assets denominated in euros? If they hold a fraction that exceeds the sum of the fractions previously occupied by the German mark and the other disappearing European currencies, a portfolio shift would occur, leading to greater demand for euros. This, in turn, could cause an appreciation of the euro. However, whether euro-denominated assets do acquire a higher share of portfolios will depend on various economic factors. These include the inflation rate in the euro area, confidence in the value of the euro relative to the dollar and the yen, the rate of return on euro-denominated assets, and economic growth in Europe, as well as political factors.

The official side of the store-of-value use is that central banks hold currencies as foreign reserves. The euro's emergence raises the possibility of greater diversification of these reserves away from the dollar toward the euro. In the 1970s and 1980s, the dollar's share of reserve currency holdings gradually shrank to make room for the mark and the yen. This trend was suspended, or even reversed, in the 1990s. But it could resume in the 2000s to make room for the euro. Such diversification away from the dollar would depend in part on the same risk-reward considerations as matter for private use. Countries with strong economic fundamentals, sound currencies, and low inflation are more likely to have their currency used as an international currency. As long as the United States maintains a strong economy, international demand for dollars will remain strong.

A *unit of account* is a reference scale for quoting prices, which is distinguishable from the actual currency in which assets are held or payments made. For the private sector an international currency functions as a unit of account through its use in invoicing imports and exports. Presently, the dollar plays a dominant role in invoicing around the world, especially for primary commodities like oil. Invoicing within Western

Europe will henceforth be mostly in euros, but the euro may also come to be used even more widely in Central and Eastern Europe, the Middle East, and Africa, areas of substantial and increasing trade with Europe.

One official use of international currencies that can be classified under the unit-of-account function is as a major currency to which smaller countries can peg their exchange rates. Non-EMU European countries, particularly those in Central and Eastern Europe, are likely to consider pegging their currencies to the euro for two reasons: because they undertake more of their trade and finance with the EU countries than with the United States, and because they aspire to eventual membership in EMU. If this happens, greater use of the euro by these countries as an intervention currency will increase official demand for euros. The unit-of-account, store-of-value, and means-of-payment functions are thus interrelated.

Currently, the dollar is the primary vehicle currency in foreign exchange trading, which is one example of the use of a currency as a *means of payment*. A trader who wishes to exchange one minor currency for another usually has to exchange the first currency for one of the major currencies, and then exchange that currency for the currency he or she ultimately wants to buy. Traders today are more likely to use the dollar as the intermediate, or vehicle, currency than to go through some other major currency or to be able to find a counterparty for a direct cross trade. (See Box 7-3 on the role of different international vehicle currencies.)

The use of a currency by the private sector as a means of payment in international trade and finance depends on economies of scale in payments systems. As in the case of a domestic currency, increasing returns to scale in payments are significant: it is easier and cheaper to use the same currency that everyone else uses. In this regard the advantages of incumbency and inertia favor the dollar even as the euro's natural home grows to be as large as that of the dollar.

In short, although it is likely that the euro will become an international currency, it is unlikely that the dollar will be replaced anytime soon in its role as the leading international currency.

Is it Good or Bad to Be an International Currency?

Does it matter whether the dollar remains the leading international currency? One should not overemphasize the decidedly modest benefits that having an international currency provides to a country.

Advantages of having a key currency. At least five advantages accrue to a country from having its currency used internationally. The first is convenience for the country's residents. It is certainly more convenient for a country's exporters, importers, borrowers, and lenders to be able to deal in their own currency rather than in foreign currencies. The global use of the dollar, like the increasingly global use of the English language, is a natural advantage that American businesses may take

Box 7-3.—How Does the Dollar Rank Today Against Other International Currencies?

Most measures show a gradual decline in international use of the dollar in recent decades. Reserve currency use, perhaps the best measure, is shown in Chart 7-3. The dollar's share of central bank reserve holdings declined from 76 percent in 1973 to 49 percent in 1990. This reflects a gradual shift of central bank portfolio shares into marks and yen. However, the dollar's share in reserve holdings has been relatively flat in the 1990s, amounting to 57 percent in 1997.

Other major measures of international currency status, as of the eve of the birth of the euro, are shown in Table 7-1. They tend to present the same picture: the dollar still leads, despite a gradual decline in its use versus the mark and the yen over the last 30 years. The dollar is still more important than its three or four closest rivals combined.

The first column in Table 7-1 reports the popularity of major currencies among smaller countries choosing a peg for their currencies. The dollar is the choice of 39 percent of these countries. Three currencies (those of Bosnia, Bulgaria, and Estonia) were pegged to the mark last year, however. Elsewhere, the French franc was, after the dollar, still the most common choice as a peg, accounting for 29 percent of countries using pegs; these countries are principally in Africa, owing to a special set of arrangements with the French treasury. The euro is inheriting this role of the mark and the franc. It is still the case that no currencies anywhere are pegged to the yen. The dollar was the currency either bought or sold in fully 87 percent of trades in global foreign exchange markets in April 1998 . This figure (like the share of reserves held in dollars) should automatically go up in 1999, as EMU eliminates intra-European transactions among member currencies.

The various measures of the use of currencies to denominate private international financial transactions—loans, bonds, and deposits—also still showed the dollar as the dominant currency, with a 54 percent share.

Figures on the use of international currencies as substitutes in local cash transactions are not generally available. According to estimates, however, the leader has been the dollar, for which internationally circulating cash has been estimated by the Federal Reserve at 60 percent of currency outstanding. International circulation of the mark has been estimated by the Bundesbank (Germany's central bank) at 35 to 40 percent of the German currency outstanding, but because the outstanding stock of marks is much smaller than that of dollars, the mark's share of total currency in international circulation is smaller than this figure would suggest.

Chart 7-3 **International Use of Major Currencies**
Although official use of the dollar is below its peak in the mid-1970s, it remains much more widely used than the other major currencies.

Source: International Monetary Fund.

TABLE 7-1.— *The Importance of Major Currencies on the Eve of the Introduction of the Euro*

[Shares in international use]

Currency	Pegging of minor currencies	Foreign exchange reserves held by central banks	Foreign exchange trading in world markets[1]	International capital markets	International trade	Cash held outside home country
U.S. Dollar	0.39	0.57	0.87	0.54	0.48	0.78
Deutsche mark	.06	.13	.30	.11	.16	.22
Japanese yen	.00	.05	.21	.08	.05	(2)
Pound sterling	.00	.03	.11	.08	} .15	.00
French franc	.29	.01	.05	.06		.00
Other EMS currencies	.04	(2)	} .17	(2)		.00
ECU	.00	.05		.01	.00	.00
Other/unspecified	.22	.15	.29	.12	.16	(2)

[1] Shares add to 2.00 because in each currency transaction there are two currencies traded.
[2] Not available.

Sources: Various international agencies (including International Monetary Fund, Bank for International Settlements, and Organization for Economic Cooperation and Development) and other sources.

for granted. But the benefits from having one's country's currency used as a unit of account should not be overemphasized. Invoicing U.S. imports in dollars does not necessarily shift the currency risk from the buyer to the seller, as the dollar price sometimes can change quickly when the exchange rate changes.

A second possible advantage is increased business for the country's banks and other financial institutions. However, there need be no firm

connection between the currency in which banking is conducted and the nationality of the banks conducting it (or between the nationalities of savers and borrowers and the nationality of the intermediating bank). British banks, for example, continued to do well in the Eurodollar market long after the pound's international role had waned. Nevertheless, it stands to reason that U.S. banks have comparative advantage in dealing in dollars.

Having an international currency may confer power and prestige, but the benefits therefrom are somewhat nebulous. Nevertheless, historians and political scientists have sometimes regarded key currency status and international creditor status, along with such noneconomic factors as colonies and military power, as among the trappings of a great power.

Some view seigniorage as perhaps the most important advantage of having other countries hold one's currency. Seigniorage derives from the fact that the United States effectively gets a zero-interest loan when dollar bills are held abroad. Just as a travelers' check issuer reaps profits whenever people hold its travelers' checks, which they are willing to do without receiving interest, so the United States profits whenever people in other countries hold dollars that do not pay them interest. International seigniorage is possible wherever hyperinflation or social disorder undermine the public's faith in the local currency, leading them to prefer to hold a sound foreign currency instead. And today the dollar is the preferred alternative. (Illegal activities are another source of demand for cash, of course.)

How much does the United States gain from seigniorage? One way to compute cumulative seigniorage is to estimate the stock of dollars held abroad and calculate the interest that would otherwise have to be paid on this "loan" to the United States. Foreign holdings of U.S. currency are conservatively estimated at 60 percent of the total in circulation. With total currency outstanding in mid-1998 at $441 billion, foreign holdings are about $265 billion. Multiplying this figure by the interest rate on Treasury bills yields an estimate for seigniorage of about $13 billion a year.

A final advantage is the ability to borrow in international capital markets in one's own currency. Some have argued that the United States' financing of its current account deficit through foreign borrowing has been facilitated by the ability to issue dollar-denominated liabilities, and the concern has been expressed that this ability may be hampered by a loss of reserve currency status. This concern is probably overdone, however. First, many industrial countries whose currency is not a key currency are able to borrow in domestic currency. Second, countries with larger current account deficits than the United States (as a share of their GDP) have regularly and persistently financed such imbalances with borrowing in foreign currency rather than their own. Countries become unable to borrow to finance current account imbal-

ances when such imbalances become unsustainable. The fact that borrowing may occur in domestic or foreign currency has little to do with such sustainability.

Disadvantages of having a key currency. Having an international currency confers at least two disadvantages on a country. These drawbacks explain why Germany, Japan, and Switzerland have in earlier decades been reluctant to have their currencies held and used widely outside their borders.

The threat of large fluctuations in demand for the currency is one disadvantage. It might be that the more people around the world hold an international currency, the more demand for that currency will vary. Such instability of demand, however, is more likely to follow from the increase in capital mobility than from key currency status per se. In any case, central banks are particularly concerned that internationalization of their currencies will make it more difficult to control their money stocks. This problem need not arise if they do not intervene in the foreign exchange market. But the central bank may view letting fluctuations in demand for the currency be reflected in the exchange rate as just as undesirable as letting them be reflected in the money supply.

The second disadvantage is an increase in average demand for the currency. This is the other side of seigniorage. In the 1960s and 1970s the Japanese and German governments were particularly worried that, if domestic assets were made available to foreign residents, an inflow of capital might cause the currency to appreciate and render the country's exporters uncompetitive on world markets. Some Europeans today express the same concern about the euro.

What Factors Determine International Currency Status?

Will the dollar maintain its global role in the foreseeable future? The answer depends on four major conditions that determine whether a currency is used internationally.

Patterns of output and trade. The currency of a country that has a large share in world output, trade, and finance has a natural advantage. The U.S. economy is still larger than the euro-11 economies combined. If the United Kingdom and the other remaining EU members (Denmark, Greece, and Sweden) join EMU in the future, however, the two currency areas will then be very close in size.

History. There is a strong inertial bias in favor of using whatever currency has been the vehicle currency in the past. Exporters, importers, borrowers, lenders, and currency traders are more likely to use a given currency in their transactions if everyone else is doing so. For this reason, the world's choice of international currency is characterized by multiple stable equilibria; that is, any of several currencies could fill that role under certain conditions. The pound remained an important international currency even after the United Kingdom lost its position

as an economic superpower early in this century. In the present context the inertial bias favors the continued central role of the dollar.

The country's financial markets. Capital and money markets must be not only open and free of controls, but also deep, well developed, and liquid. The large financial marketplaces of New York and London clearly benefit the dollar and the pound relative to the mark and the yen. It remains to be seen whether EMU will turn Frankfurt or Paris into one of the top few world financial centers.

Confidence in the value of the currency. Even if a key currency were used only as a unit of account, a necessary qualification would be that its value not fluctuate erratically. In fact, however, a key currency is also used as a form in which to hold assets (firms hold working balances of the currencies in which they invoice, investors hold bonds issued internationally, and central banks hold currency reserves). For these purposes, confidence that the value of the currency will be stable, and particularly that it will not at some point be inflated away, is critical.

In the 1970s the monetary authorities in Germany, Japan, and Switzerland established a better track record of low inflation than did the United States, which helped their currencies to achieve greater international currency status. Given the good U.S. inflation performance more recently, this is no longer such a concern.

What Is the Prognosis for the Dollar and the Euro?

In light of these desiderata for a would-be international currency, is it likely that the euro will rival the dollar as the leading international currency? The euro automatically inherits the roles of the ecu, the mark, the French franc, and other currencies of the European Monetary System. Subsequently, the euro's share will probably gradually rise, moving in the direction of Europe's share of output.

The odds, however, are against the euro's rapidly supplanting the dollar as the world's premier currency. It is not that the dollar is ideally suited for the role of everyone's favorite currency. An international currency is one that people use because everyone else is using it. Two of the four determinants of reserve currency status—highly developed financial markets and historical inertia—support the dollar over the euro. The third, economic size, is a tie (or will be if the United Kingdom joins EMU). The fourth determinant is also a tie, as both Europe and the United States have pursued stable monetary policies aimed at keeping inflation low.

The widespread use of the U.S. dollar as an international currency—for holding reserves, pegging minor currencies, invoicing imports and exports, and denominating bonds and lending—is testimony to the strength of the U.S. economy and the confidence with which it is viewed around the world. But the direct economic benefits deriving from this international role are limited. The welfare of a country is measured by its ability to produce a large quantity of goods and ser-

vices in demand, and to provide its citizens with sustained increases in real income and consumption opportunities. Whether a country's currency is an international currency or not has little to do with such long-run well-being, as the experience of many successful economies whose currencies do not have international roles attests. An economically strong and healthy United States that is also a leader and champion of sound economic policies has led, as a by-product, to a strong international role for the U.S. dollar.

CONCLUSION

Reforms are under way to create a strengthened international financial architecture for the global marketplace in the next millennium, one that captures the full benefits of international capital flows and global markets, minimizes the risk of disruption, and protects the most vulnerable.

The United States has worked intensively with key emerging markets, other industrial countries, and the relevant international organizations to put in place the building blocks of this new architecture. The reforms recommended by the G-22 and adopted by the G-7 are an important starting point. The United States and its G-7 partners have also agreed to do more to build a modern framework for the global markets of the 21st century and to limit the swings of boom and bust that destroy hope and diminish wealth. For these reasons they have also committed themselves to initiate new work on a number of other important areas, to identify additional steps to strengthen the international financial architecture. All these reforms will ensure that the unprecedented growth and the increase in welfare and opportunity experienced in the 50 years after the creation of the Bretton Woods system are maintained in the future.

Meanwhile the United States salutes the formation of the European Monetary Union. The United States has much to gain from the success of this momentous project. Now more than ever, America is well served by having an integrated and prosperous trading partner on the other side of the Atlantic. Europe should benefit from a single currency that supports these ends—and if Europe benefits, the United States gains as well.

Appendix A
REPORT TO THE PRESIDENT ON THE ACTIVITIES OF THE COUNCIL OF ECONOMIC ADVISERS DURING 1998

LETTER OF TRANSMITTAL

COUNCIL OF ECONOMIC ADVISERS
Washington, D.C., December 31, 1998

MR. PRESIDENT:

The Council of Economic Advisers submits this report on its activities during the calendar year 1998 in accordance with the requirements of the Congress, as set forth in section 10(d) of the Employment Act of 1946 as amended by the Full Employment and Balanced Growth Act of 1978.

Sincerely,

Janet L. Yellen, *Chair*
Jeffrey A. Frankel, *Member*
Rebecca M. Blank, *Member*

Council Members and Their Dates of Service

Name	Position	Oath of office date	Separation date
Edwin G. Nourse	Chairman	August 9, 1946	November 1, 1949.
Leon H. Keyserling	Vice Chairman	August 9, 1946	
	Acting Chairman	November 2, 1949	
	Chairman	May 10, 1950	January 20, 1953.
John D. Clark	Member	August 9, 1946	
	Vice Chairman	May 10, 1950	February 11, 1953.
Roy Blough	Member	June 29, 1950	August 20, 1952.
Robert C. Turner	Member	September 8, 1952	January 20, 1953.
Arthur F. Burns	Chairman	March 19, 1953	December 1, 1956.
Neil H. Jacoby	Member	September 15, 1953	February 9, 1955.
Walter W. Stewart	Member	December 2, 1953	April 29, 1955.
Raymond J. Saulnier	Member	April 4, 1955	
	Chairman	December 3, 1956	January 20, 1961.
Joseph S. Davis	Member	May 2, 1955	October 31, 1958.
Paul W. McCracken	Member	December 3, 1956	January 31, 1959.
Karl Brandt	Member	November 1, 1958	January 20, 1961.
Henry C. Wallich	Member	May 7, 1959	January 20, 1961.
Walter W. Heller	Chairman	January 29, 1961	November 15, 1964.
James Tobin	Member	January 29, 1961	July 31, 1962.
Kermit Gordon	Member	January 29, 1961	December 27, 1962.
Gardner Ackley	Member	August 3, 1962	
	Chairman	November 16, 1964	February 15, 1968.
John P. Lewis	Member	May 17, 1963	August 31, 1964.
Otto Eckstein	Member	September 2, 1964	February 1, 1966.
Arthur M. Okun	Member	November 16, 1964	
	Chairman	February 15, 1968	January 20, 1969.
James S. Duesenberry	Member	February 2, 1966	June 30, 1968.
Merton J. Peck	Member	February 15, 1968	January 20, 1969.
Warren L. Smith	Member	July 1, 1968	January 20, 1969.
Paul W. McCracken	Chairman	February 4, 1969	December 31, 1971.
Hendrik S. Houthakker	Member	February 4, 1969	July 15, 1971.
Herbert Stein	Member	February 4, 1969	
	Chairman	January 1, 1972	August 31, 1974.
Ezra Solomon	Member	September 9, 1971	March 26, 1973.
Marina v.N. Whitman	Member	March 13, 1972	August 15, 1973.
Gary L. Seevers	Member	July 23, 1973	April 15, 1975.
William J. Fellner	Member	October 31, 1973	February 25, 1975.
Alan Greenspan	Chairman	September 4, 1974	January 20, 1977.
Paul W. MacAvoy	Member	June 13, 1975	November 15, 1976.
Burton G. Malkiel	Member	July 22, 1975	January 20, 1977.
Charles L. Schultze	Chairman	January 22, 1977	January 20, 1981.
William D. Nordhaus	Member	March 18, 1977	February 4, 1979.
Lyle E. Gramley	Member	March 18, 1977	May 27, 1980.
George C. Eads	Member	June 6, 1979	January 20, 1981.
Stephen M. Goldfeld	Member	August 20, 1980	January 20, 1981.
Murray L. Weidenbaum	Chairman	February 27, 1981	August 25, 1982.
William A. Niskanen	Member	June 12, 1981	March 30, 1985.
Jerry L. Jordan	Member	July 14, 1981	July 31, 1982.
Martin Feldstein	Chairman	October 14, 1982	July 10, 1984.
William Poole	Member	December 10, 1982	January 20, 1985.
Beryl W. Sprinkel	Chairman	April 18, 1985	January 20, 1989.
Thomas Gale Moore	Member	July 1, 1985	May 1, 1989.
Michael L. Mussa	Member	August 18, 1986	September 19, 1988.
Michael J. Boskin	Chairman	February 2, 1989	January 12, 1993.
John B. Taylor	Member	June 9, 1989	August 2, 1991.
Richard L. Schmalensee	Member	October 3, 1989	June 21, 1991.
David F. Bradford	Member	November 13, 1991	January 20, 1993.
Paul Wonnacott	Member	November 13, 1991	January 20, 1993.
Laura D Andrea Tyson	Chair	February 5, 1993	April 22, 1995.
Alan S. Blinder	Member	July 27, 1993	June 26, 1994.
Joseph E. Stiglitz	Member	July 27, 1993	
	Chairman	June 28, 1995	February 10, 1997.
Martin N. Baily	Member	June 30, 1995	August 30, 1996.
Alicia H. Munnell	Member	January 29, 1996	August 1, 1997.
Janet L. Yellen	Chair	February 18, 1997	
Jeffrey A. Frankel	Member	April 23, 1997	
Rebecca M. Blank	Member	October 22, 1998	

Report to the President on the Activities of the Council of Economic Advisers During 1998

The Council of Economic Advisers was established by the Employment Act of 1946 to provide the President with objective economic analysis and advice on the development and implementation of a wide range of domestic and international economic policy issues.

The Chair of the Council

Janet L. Yellen continued to chair the Council during 1998. Before becoming Chair of the Council, Dr. Yellen served as a Member of the Board of Governors of the Federal Reserve System. Dr. Yellen is on leave from the Haas School of Business at the University of California, Berkeley, where she is the Eugene E. and Catherine M. Trefethen Professor of Business Administration. Dr. Yellen is responsible for communicating the Council's views on economic matters directly to the President through personal discussions and written reports. She also represents the Council at Cabinet meetings, meetings of the National Economic Council (NEC), daily White House senior staff meetings, budget team meetings with the President, and other formal and informal meetings with the President, senior White House staff, and other senior government officials. Dr. Yellen is the Council's chief public spokesperson. She directs the work of the Council and exercises ultimate responsibility for the work of the professional staff.

The Members of the Council

Jeffrey A. Frankel is a Member of the Council of Economic Advisers. Dr. Frankel is on leave from the University of California, Berkeley, where he is a Professor of Economics. He previously directed the program on International Finance and Macroeconomics at the National Bureau of Economic Research and is a former Senior Fellow at the Institute for International Economics.

Rebecca M. Blank is also a Member of the Council of Economic Advisers. Dr. Blank is on leave from Northwestern University, where she is a Professor of Economics. Dr. Blank previously served as the first Director of the Northwestern University/University of Chicago Joint Center for Poverty Research and was a member of the research faculty at Northwestern University's Institute for Policy Research.

The Chair and Members work as a team on most economic policy issues. Dr. Frankel was primarily responsible for the Administration's economic forecast, macroeconomic analysis, international economic issues, and certain microeconomic issues, including those relating to natural resources, the environment, and industrial organization. Dr. Blank was primarily responsible for policy analysis relating to the budget and taxation, labor, retirement security, health care, welfare reform, and child and family issues. She also worked closely with the President's Initiative on Race. The Chair and Members participate in the deliberations of the NEC, and Dr. Yellen is a member of the NEC Principals Committee.

WEEKLY ECONOMIC BRIEFINGS

Dr. Yellen and the Members continued to prepare the *Weekly Economic Briefing of the President of the United States* for the President, the Vice President, and the President's other senior economic and policy advisers. The Council, in cooperation with the Office of the Vice President, prepares the written briefing, which provides analysis of current economic developments, more extended discussions of a wide range of economic issues and problems, and summaries of economic developments in different regions and sectors of the economy.

MACROECONOMIC POLICIES

A primary function of the Council is to advise the President on all major macroeconomic issues and developments. The Council prepares for the President, the Vice President, and the White House senior staff almost daily memoranda that report key economic data and analyze current economic events.

The Council, the Department of the Treasury, and the Office of Management and Budget—the Administration's economic "troika"—are responsible for producing the economic forecasts that underlie the Administration's budget proposals. The Council, under the leadership of the Members, initiates the forecasting process twice each year. In preparing these forecasts, the Council consults with a variety of outside sources, including leading private sector forecasters.

In 1998 the Council continued to take part in discussions about a range of budget issues, including Medicare reform, discretionary spending priorities, and the Administration's tax proposals. The Council also participated in discussions of proposals to strengthen the Social Security system, and development of the President's proposal to save Social Security for the 21st century.

The Council participates in the Working Group on Financial Markets, an interagency group that monitors developments related to financial markets and the banking sector. The group includes representatives from the Treasury, the Federal Reserve, the NEC, and various regulatory agencies. The Council also participated in a

working group studying bankruptcy reform, and in another on the macroeconomic implications of the Y2K problem.

The Council continued its efforts to improve the public's understanding of economic issues and the Administration's economic agenda through regular briefings with the economic and financial press, frequent discussions with outside economists, and presentations to outside organizations. Drs. Yellen, Frankel, and Blank also regularly exchanged views on the macroeconomy with the Chairman and Members of the Board of Governors of the Federal Reserve System.

INTERNATIONAL ECONOMIC POLICIES

The Council was an active participant in 1998 in the international economic policymaking process through the NEC and the National Security Council, providing both technical and analytical support and policy guidance.

The Council took an active role in developing policies to respond to financial turmoil in Asia, Russia, and Latin America, including, for example, the Asian Growth and Recovery Initiative, designed to accelerate the restructuring of bank and corporate debt in some countries affected by the Asian crisis. The Council also monitored closely the effects of the Asian crisis on U.S. trade. In addition, the Council actively participated in the development of proposals to reform the international financial architecture.

The Council was involved in a range of other international economic issues, including evaluating and explaining the case for trade liberalization, U.S. trade remedy laws (antidumping, countervailing duties, safeguards, and Section 301 actions), sanctions policy, and the agendas of multilateral and regional forums such as the World Trade Organization and the Asia-Pacific Economic Cooperation forum. Dr. Yellen testified before the Senate Finance Committee on the causes and consequences of the U.S. trade deficit.

The Council continued its annual meetings with the Economic Planning Agency of Japan and the State Development and Planning Commission of China, the Council's counterparts in those countries, and began to meet with France's new Council of Economic Analysis. In May, Dr. Yellen led a delegation of U.S. economic officials, including representatives of the Departments of Commerce and Treasury and the Board of Governors of the Federal Reserve System, to China to continue discussions about China's economy and economic reforms. Dr. Yellen also participated in the President's trip to China in June, and in November she traveled to Japan, as part of the President's official visit, to discuss Japan's economy and economic reforms.

The Council often represents the United States at international meetings and forums. It is a leading participant in the Organization for Economic Cooperation and Development (OECD), the principal forum for economic cooperation among the high-income industrial

countries. The Council heads the U.S. delegation to the semiannual meetings of the OECD's Economic Policy Committee; Dr. Yellen serves as that committee's chair. Dr. Yellen also represented the United States at the 1998 OECD Ministerial and participated in the OECD's High Level Group on Sustainable Development. In 1998 Dr. Frankel participated in the OECD's Working Party 3 on macroeconomic policy coordination. Dr. Blank led the U.S. delegation to the OECD's Working Party 1, which focuses on budget and other microeconomic issues. Dr. Steven N. Braun, Director, Macroeconomic Forecasting at the Council, led the U.S. delegation to the OECD annual examination of the United States.

MICROECONOMIC POLICIES

During 1998 the Council was an active participant in a range of microeconomic policy discussions. The Council participated in various interagency discussions on labor market issues, health care, education, urban issues, child care, statistical policy, and welfare reform. The Council also participated in working groups on the minimum wage, pensions, training initiatives for displaced workers, immigrant visas, unemployment insurance reform, and farm policy.

The Council was actively involved in the President's Initiative on Race. It coordinated the production and release of a document presenting important indicators of social and economic well-being by race and ethnicity for use by a national audience including educators and policymakers. In October the Council helped coordinate a major conference on racial trends in the United States, sponsored by the President's Initiative on Race and organized by the National Research Council.

In June 1998 the Council issued a report titled *Explaining Trends in the Gender Wage Gap*. The report concluded that although the gap between women and men's wages has narrowed substantially since the signing of the Equal Pay Act in 1963, a significant wage gap remains, which cannot be explained by differences between male and female workers in labor market experience and in the characteristics of jobs they hold.

In the areas of regulation and competition policy, the Council helped develop important Administration initiatives to improve the performance of markets, both domestically and internationally. On the domestic front the Council provided background information for and participated in a review of merger effects and related policy issues, and participated in interagency reviews of competition and pricing in various sectors of the transportation market. Dr. Yellen testified before the Senate Judiciary Committee on the economic impact of

mergers in the United States. The Council also participated in a working group on consumer privacy policy, and in another group on natural disaster insurance. The Council worked to consider questions raised by proposed tobacco legislation. It was also engaged in issues related to the privatization of the U.S. Enrichment Corporation.

The Council has been active on several matters relating to telecommunications. It has worked with the Office of the Vice President to examine increases in growth and competition in the U.S. telecommunications industry, and participated in interagency working groups to review a variety of regulatory matters. The Council played an active role in developing the Administration's response to proposed legislation to reform the global satellite industry and worked with other agencies to develop competitive principles designed to increase consumer benefits from satellite communications. The Council took part in interagency efforts to increase competition and efficiency in electric power markets in a manner consistent with important environmental and social objectives.

The Council was active in a range of policy discussions on natural resources and the environment, including implementation of the Clean Air Act, as it applies to automobiles, power plants, and other pollution sources. It was involved in the development and analysis of the Administration's global climate change policy. After the negotiation of the Kyoto Protocol, the Council responded to requests from the Congress and the public to analyze the economic impact of the climate change agreement. The Council led the preparation and release of the Administration's economic analysis, titled *The Kyoto Protocol and the President's Policies to Address Climate Change: Administration Economic Analysis,* which was released in July. Dr. Yellen testified on six occasions before several House and Senate committees regarding the Administration's findings. The Council has been particularly active in developing and promoting plans for the international trading of emissions permits and other market mechanisms to achieve the targets of the Kyoto Protocol most efficiently. To advance these plans, Members and staff traveled to and consulted with officials from Argentina, China, France, and the Republic of Korea.

The Staff of the Council of Economic Advisers

The professional staff of the Council consists of the Chief of Staff, the Senior Statistician, nine senior economists, the Senior Advisor to the Council, five staff economists, and three research assistants. The professional staff and their areas of concentration at the end of 1998 were:

Chief of Staff and General Counsel

Michele M. Jolin

Senior Economists

Steven N. Braun	Director, Macroeconomic Forecasting
Douglas W. Elmendorf	Macroeconomics and Financial Markets
Elise H. Golan	Agriculture and Natural Resources
Stephen Polasky	Environment and Natural Resources
Cordelia W. Reimers	Labor, Social Policy, and Education
Nouriel Roubini	International Economics
Robert F. Schoeni	Labor, Social Policy, and Welfare
Howard A. Shelanski	Regulation, Industrial Organization, and Antitrust
Charles F. Stone	Macroeconomics and Editor, *Weekly Economic Briefing of the President*

Senior Advisor to the Council

Joseph E. Aldy	Global Environment and Natural Resources

Senior Statistician

Catherine H. Furlong

Staff Economists

Ryan D. Edwards	Macroeconomics
Quindi C. Franco	Environment and Natural Resources
Nora E. Gordon	Labor and Social Economics
Bert I. Huang	Labor and Microeconomics
Matthew R. McBrady	International Economics

Research Assistants

Andrew R. Feldman	*Weekly Economic Briefing of the President* and Labor
Raymond P. Guiteras	*Weekly Economic Briefing of the President* and International Economics
Summer L. Scott	Macroeconomics

Statistical Office

Mrs. Furlong directs the Statistical Office. The Statistical Office maintains and updates the Council's statistical information, oversees the publication of the monthly *Economic Indicators* and the statistical appendix to the *Economic Report,* and verifies statistics in Presidential and Council memoranda, testimony, and speeches.

Susan P. Clements	Statistician
Linda A. Reilly	Statistician
Brian A. Amorosi	Research Assistant

Administrative Office

Catherine Fibich	Administrative Officer

Office of the Chairman

Alice H. Williams	Executive Assistant to the Chairman
Sandra F. Daigle	Executive Assistant to the Chairman and Assistant to the Chief of Staff
Lisa D. Branch	Executive Assistant to Dr. Frankel
Francine P. Obermiller	Executive Assistant to Dr. Blank

Staff Secretaries

Mary E. Jones	International Economics, Labor, and Health Care
Rosalind V. Rasin	Environment, Industrial Organization, and Public Finance
Mary A. Thomas	Macroeconomics

Mrs. Thomas also served as executive assistant for the *Weekly Economic Briefing of the President*.

Michael Treadway provided editorial assistance in the preparation of the 1999 *Economic Report*. Michael A. Toman, Resources for the Future, served as a consultant during the year.

Anne M. Piehl and Timothy Waidmann provided expertise in the preparation of a report prepared by the Council for the President's Initiative on Race entitled *Changing America: Indicators of Social and Economic Well-Being by Race and Hispanic Origin*. Jenepher W. Moseley provided editorial assistance in the preparation of this report.

Student interns during the year were Robert P. Bamsey, Gregory A. Bedard, Carol L. Capece, Michael A. Egner, Heather L. Jambrosic, Jason K. Nuzzo, Jenny E. Pippin, Annette M. Richter, Rachel E. Rubinfeld, Kristen M. Scarafia, Jasmin K. Sethi, and Matthew C. Weinzierl. The following student interns joined the Council in January to assist with the preparation of the *Economic Report*: Enrique J. Alonso, David S. Felman, Matthew S. Milner, and Nathaniel F. Stankard.

DEPARTURES

The Council's senior economists, in most cases, are on leave of absence from faculty positions at academic institutions or from other government agencies or research institutions. Their tenure with the Council is usually limited to 1 or 2 years. Many of the senior economists who resigned during the year returned to their previous

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affiliations. They are Christopher D. Carroll (The Johns Hopkins University), Aaron S. Edlin (University of California, Berkeley), Jon D. Haveman (Purdue University), and Sanders D. Korenman (Baruch College of the City University of New York). Keith O. Fuglie returned to the U.S. Department of Agriculture, and he has since accepted a position with the International Potato Center. Senior economists who resigned during the year and accepted new positions are Maria J. Harratty (University of Minnesota), Randall W. Lutter (American Enterprise Institute and the AEI-Brookings Joint Center for Regulatory Studies), Adele C. Morris (Department of the Treasury), and Jeremy B. Rudd (Department of the Treasury).

Staff economists are generally graduate students who spend 1 year with the Council and then return to their universities to complete their dissertations. Those who returned to their graduate studies in 1998 are Mark R. Hopkins (University of Wisconsin-Madison) and Mark C. Rainey (Massachusetts Institute of Technology). Amy N. Finkelstein began graduate studies at the Massachusetts Institute of Technology and Sarah J. Reber at Harvard University. After serving as a research assistant at the Council, Zachary M. Candelario accepted a position at Mars and Company. Research assistants who began graduate studies in 1998 are Melissa A. Clark (Princeton University) and Ha Yan Lee (London School of Economics). Daniel K. Chang began studies at Georgetown University Law Center.

Public Information

The Council's *Annual Report* is an important vehicle for presenting the Administration's domestic and international economic policies. It is now available for distribution as a bound volume, on CD-ROM, and on the Internet, where it is accessible at http://www.access.gpo.gov/eop. The Council also has primary responsibility for compiling the monthly *Economic Indicators*, which is issued by the Joint Economic Committee of the Congress. The Internet address for the *Economic Indicators* is www.access.gpo.gov/congress/cong002.html.

Appendix B
STATISTICAL TABLES RELATING TO INCOME, EMPLOYMENT, AND PRODUCTION

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General Notes

Detail in these tables may not add to totals because of rounding.

Because of the formula used for calculating real gross domestic product (GDP), the chained (1992) dollar estimates for the detailed components do not add to the chained-dollar value of GDP or to any intermediate aggregates. The Department of Commerce (Bureau of Economic Analysis) no longer publishes chained-dollar estimates prior to 1982, except for selected series.

Unless otherwise noted, all dollar figures are in current dollars.

Symbols used:

p Preliminary.

...Not available (also, not applicable).

Data in these tables reflect revisions made by the source agencies from February 1998 through late January 1999.

TABLE B–1.—*Gross domestic product, 1959–98*

[Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product	Personal consumption expenditures				Gross private domestic investment						
							Fixed investment					Change in business inventories
								Nonresidential			Residential	
		Total	Durable goods	Nondurable goods	Services	Total	Total	Total	Structures	Producers' durable equipment		
1959	507.2	318.1	42.7	148.5	127.0	78.8	74.6	46.5	18.1	28.3	28.1	4.2
1960	526.6	332.2	43.3	157.9	136.0	78.8	75.5	49.2	19.6	29.7	26.3	3.2
1961	544.8	342.6	41.8	156.6	144.3	77.9	75.0	48.6	19.7	28.9	26.4	2.9
1962	585.2	363.4	46.9	162.8	153.7	87.9	81.8	52.8	20.8	32.1	29.0	6.1
1963	617.4	383.0	51.6	168.2	163.2	93.4	87.7	55.6	21.2	34.4	32.1	5.7
1964	663.0	411.4	56.7	178.7	176.1	101.7	96.7	62.4	23.7	38.7	34.3	5.0
1965	719.1	444.3	63.3	191.6	189.4	118.0	108.3	74.1	28.3	45.8	34.2	9.7
1966	787.8	481.9	68.3	208.8	204.8	130.4	116.7	84.4	31.3	53.0	32.3	13.8
1967	833.6	509.5	70.4	217.1	222.0	128.0	117.6	85.2	31.5	53.7	32.4	10.5
1968	910.6	559.8	80.8	235.7	243.4	139.9	130.8	92.1	33.6	58.5	38.7	9.1
1969	982.2	604.7	85.9	253.2	265.5	155.0	145.5	102.5	37.7	65.2	42.6	9.5
1970	1,035.6	648.1	85.0	272.0	291.1	150.2	148.1	106.7	40.3	66.4	41.4	2.2
1971	1,125.4	707.5	96.9	285.5	320.1	176.0	167.5	111.7	42.7	69.1	55.8	8.5
1972	1,237.3	770.7	110.4	308.0	352.3	205.6	195.7	126.1	47.2	78.9	69.7	9.9
1973	1,382.6	851.6	123.9	343.1	384.9	242.9	225.4	150.0	55.0	95.1	75.3	17.5
1974	1,496.9	931.2	122.3	384.5	424.4	245.6	231.5	165.6	61.2	104.3	66.0	14.1
1975	1,630.6	1,079.1	133.5	420.6	475.0	225.4	231.7	169.0	61.4	107.6	62.7	–6.3
1976	1,819.0	1,148.8	158.9	458.2	531.8	286.6	269.6	187.2	65.9	121.2	82.5	16.9
1977	2,026.9	1,277.1	181.1	496.9	599.0	356.6	333.5	223.2	74.6	148.7	110.3	23.1
1978	2,291.4	1,428.8	201.4	549.9	677.4	430.8	403.6	277.0	91.4	180.6	131.6	27.2
1979	2,557.5	1,593.5	213.9	624.0	755.6	480.9	464.0	323.0	114.9	208.1	141.0	16.9
1980	2,784.2	1,760.4	213.5	695.5	851.4	465.9	473.5	350.3	133.9	216.4	123.2	–7.6
1981	3,115.9	1,941.3	230.5	758.2	952.6	556.2	528.1	405.4	164.6	240.9	122.6	28.2
1982	3,242.1	2,076.8	239.3	786.8	1,050.7	501.1	515.6	405.9	175.0	234.9	105.7	–14.5
1983	3,514.5	2,283.4	279.8	830.3	1,173.3	547.1	552.0	399.4	152.7	246.7	152.5	–4.9
1984	3,902.4	2,492.3	325.1	883.6	1,283.6	715.6	648.1	468.3	176.0	292.3	179.8	67.5
1985	4,180.7	2,704.8	361.1	927.6	1,416.1	715.1	688.9	502.0	193.3	308.7	186.9	26.2
1986	4,422.2	2,892.2	393.7	957.7	1,536.8	722.5	712.9	494.8	175.8	319.0	218.1	9.6
1987	4,692.3	3,094.5	416.7	1,014.0	1,663.8	747.2	722.9	495.4	172.1	323.3	227.6	24.2
1988	5,049.6	3,349.7	451.0	1,081.1	1,817.6	773.9	763.1	530.6	181.3	349.3	232.5	10.9
1989	5,438.7	3,594.8	477.8	1,163.8	1,958.1	829.2	797.5	566.2	192.3	373.9	231.3	31.7
1990	5,743.8	3,839.3	476.5	1,245.3	2,117.5	799.7	791.6	575.9	200.8	375.1	215.7	8.0
1991	5,916.7	3,975.1	455.2	1,277.6	2,242.3	736.2	738.5	547.3	181.7	365.6	191.2	–2.3
1992	6,244.4	4,219.8	488.5	1,321.8	2,409.4	790.4	783.4	557.5	169.2	388.7	225.6	7.0
1993	6,558.1	4,459.2	530.2	1,370.7	2,558.4	876.2	855.7	604.1	176.4	427.7	251.6	20.5
1994	6,947.0	4,717.0	579.5	1,426.4	2,709.1	1,007.9	946.6	660.6	184.5	476.1	286.0	61.2
1995	7,269.6	4,953.9	611.0	1,473.6	2,869.2	1,043.7	1,012.5	727.7	201.3	526.4	284.8	30.7
1996	7,661.6	5,215.7	643.3	1,539.2	3,033.2	1,131.9	1,099.8	787.9	216.9	571.0	311.8	32.1
1997	8,110.9	5,493.7	673.0	1,600.6	3,220.1	1,256.0	1,188.6	860.7	240.2	620.5	327.9	67.4
1993: I	6,444.5	4,365.4	506.4	1,354.4	2,504.6	854.3	823.5	580.5	171.7	408.9	243.0	30.7
II	6,509.3	4,428.1	524.2	1,366.3	2,537.6	857.4	842.9	598.8	175.2	423.6	244.1	14.5
III	6,574.6	4,488.6	537.2	1,373.9	2,577.4	877.8	858.8	606.4	177.8	428.6	252.4	14.0
IV	6,704.2	4,554.9	553.1	1,388.0	2,613.8	920.3	897.5	630.6	180.7	449.9	266.8	22.9
1994: I	6,794.3	4,616.6	563.2	1,404.4	2,649.0	963.4	911.0	634.6	175.4	459.3	276.4	52.4
II	6,911.4	4,680.5	572.4	1,416.0	2,692.2	1,017.9	941.7	652.9	185.2	467.7	288.7	76.3
III	6,986.5	4,750.6	583.3	1,439.5	2,727.8	1,007.1	956.9	667.4	186.8	480.6	289.5	50.2
IV	7,095.7	4,820.2	599.3	1,453.7	2,767.2	1,043.1	977.0	687.5	190.7	496.8	289.5	66.2
1995: I	7,170.8	4,862.5	598.4	1,459.6	2,804.5	1,058.9	1,000.0	713.6	197.9	515.6	286.4	59.0
II	7,210.9	4,931.5	606.0	1,470.7	2,854.7	1,029.6	1,004.3	728.1	201.8	526.3	276.2	25.3
III	7,304.8	4,986.4	616.9	1,476.8	2,892.7	1,030.6	1,013.5	729.5	203.0	526.5	284.0	17.1
IV	7,391.9	5,035.3	622.8	1,487.5	2,925.0	1,053.6	1,032.1	739.5	202.2	537.2	292.6	21.5
1996: I	7,495.3	5,108.2	632.3	1,506.8	2,969.0	1,075.3	1,059.1	759.0	206.5	552.6	300.1	16.3
II	7,629.7	5,199.0	647.3	1,537.9	3,013.7	1,118.3	1,089.7	774.8	211.3	563.5	315.0	28.5
III	7,707.4	5,242.5	642.5	1,543.6	3,056.3	1,167.9	1,118.1	801.1	218.0	583.1	317.0	49.8
IV	7,818.4	5,313.2	651.1	1,568.3	3,093.6	1,166.0	1,132.2	816.8	232.1	584.8	315.3	33.8
1997: I	7,905.0	5,402.4	648.9	1,589.7	3,143.9	1,208.4	1,146.7	837.1	236.2	591.0	319.5	59.7
II	8,043.4	5,438.8	659.9	1,588.2	3,190.7	1,259.9	1,176.4	850.2	234.3	616.2	325.9	83.5
III	8,170.8	5,540.3	681.2	1,611.3	3,247.9	1,265.7	1,211.1	882.3	243.8	638.5	328.8	54.6
IV	8,254.5	5,593.2	682.2	1,613.2	3,297.8	1,292.0	1,220.1	882.8	246.4	636.4	337.4	71.9
1998: I	8,304.2	5,676.5	705.1	1,633.1	3,338.2	1,366.6	1,271.1	921.3	245.0	676.3	349.8	95.5
II	8,440.6	5,773.7	720.1	1,655.2	3,398.4	1,345.0	1,305.8	941.5	245.4	696.6	363.8	39.2
III	8,573.9	5,846.7	718.9	1,670.0	3,457.7	1,364.4	1,307.5	931.6	246.2	685.4	375.8	57.0

See next page for continuation of table.

TABLE B–1.—*Gross domestic product, 1959–98*—Continued

[Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Net exports of goods and services			Government consumption expenditures and gross investment				Final sales of domestic product	Gross domestic purchases [1]	Addendum: Gross national product [2]	Percent change from preceding period	
					Federal							
	Net exports	Exports	Imports	Total	Total	National defense	Nondefense	State and local				Gross domestic product	Gross domestic purchases [1]
1959	–1.7	20.6	22.3	112.0	67.2	55.7	11.5	44.8	503.0	508.9	510.1	8.5	9.0
1960	2.4	25.3	22.8	113.2	65.6	54.9	10.8	47.6	523.3	524.1	529.8	3.8	3.0
1961	3.4	26.0	22.7	120.9	69.1	57.7	11.4	51.8	541.9	541.5	548.4	3.5	3.3
1962	2.4	27.4	25.0	131.4	76.5	62.3	14.2	55.0	579.1	582.8	589.4	7.4	7.6
1963	3.3	29.4	26.1	137.7	78.1	62.2	15.9	59.6	611.7	614.1	621.9	5.5	5.4
1964	5.5	33.6	28.1	144.4	79.4	61.3	18.1	65.0	658.0	657.6	668.0	7.4	7.1
1965	3.9	35.4	31.5	153.0	81.8	62.0	19.7	71.2	709.4	715.3	724.5	8.5	8.8
1966	1.9	38.9	37.1	173.6	94.1	73.4	20.7	79.5	774.0	785.9	793.0	9.5	9.9
1967	1.4	41.4	39.9	194.6	106.6	85.5	21.0	88.1	823.1	832.2	839.1	5.8	5.9
1968	–1.3	45.3	46.6	212.1	113.8	92.0	21.8	98.3	901.4	911.8	916.7	9.2	9.6
1969	–1.2	49.3	50.5	223.8	115.8	92.4	23.4	108.0	972.7	983.4	988.4	7.9	7.8
1970	1.2	57.0	55.8	236.1	115.9	90.6	25.3	120.2	1,033.4	1,034.4	1,042.0	5.4	5.2
1971	–3.0	59.3	62.3	249.9	117.1	88.7	28.3	132.8	1,116.9	1,128.4	1,133.1	8.7	9.1
1972	–8.0	66.2	74.2	268.9	125.1	93.2	31.9	143.8	1,227.4	1,245.3	1,246.0	9.9	10.4
1973	.6	91.8	91.2	287.6	128.2	94.7	33.5	159.4	1,365.2	1,382.0	1,395.4	11.7	11.0
1974	–3.1	124.3	127.5	323.2	139.9	101.9	38.0	183.3	1,482.8	1,500.0	1,512.6	8.3	8.5
1975	13.6	136.3	122.7	362.6	154.5	110.9	43.6	208.1	1,636.9	1,617.1	1,643.9	8.9	7.8
1976	–2.3	148.9	151.1	385.9	162.7	116.1	46.6	223.1	1,802.0	1,821.2	1,836.1	11.5	12.6
1977	–23.7	158.8	182.4	416.9	178.4	125.8	52.6	238.5	2,003.8	2,050.5	2,047.5	11.4	12.6
1978	–26.1	186.1	212.3	457.9	194.4	135.6	58.9	263.4	2,264.2	2,317.5	2,313.5	13.0	13.0
1979	–24.0	228.7	252.7	507.1	215.0	151.2	63.8	292.0	2,540.6	2,581.5	2,590.4	11.6	11.4
1980	–14.9	278.9	293.8	572.8	248.4	174.2	74.2	324.4	2,791.9	2,799.1	2,819.5	8.9	8.4
1981	–15.0	302.8	317.8	633.4	284.1	202.0	82.2	349.2	3,087.8	3,130.9	3,150.6	11.9	11.9
1982	–20.5	282.6	303.2	684.8	313.2	230.9	82.3	371.6	3,256.6	3,262.6	3,273.2	4.1	4.2
1983	–51.7	277.0	328.6	735.7	344.5	255.0	89.4	391.2	3,519.4	3,566.2	3,546.5	8.4	9.3
1984	–102.0	303.1	405.1	756.6	372.6	282.7	89.9	424.0	3,835.0	4,004.5	3,933.5	11.0	12.3
1985	–114.2	303.0	417.2	807.0	410.1	312.4	97.7	464.9	4,154.5	4,294.9	4,201.0	7.1	7.3
1986	–131.5	320.7	452.2	838.5	432.4	332.4	100.0	503.3	4,412.6	4,553.7	4,435.1	5.8	6.0
1987	–142.1	365.7	507.9	892.8	455.7	350.4	105.3	537.2	4,668.1	4,834.5	4,701.3	6.1	6.2
1988	–106.1	447.2	553.2	1,032.0	457.3	354.0	103.3	574.7	5,038.7	5,155.6	5,062.6	7.6	6.6
1989	–80.4	509.3	589.7	1,095.1	477.2	360.6	116.7	617.9	5,407.0	5,519.1	5,452.8	7.7	7.0
1990	–71.3	557.3	628.6	1,176.1	503.6	373.1	130.4	672.6	5,735.8	5,815.1	5,764.9	5.6	5.4
1991	–20.5	601.8	622.3	1,225.9	522.6	383.5	139.1	703.4	5,919.0	5,937.2	5,932.4	3.0	2.1
1992	–29.5	639.4	669.0	1,263.8	528.0	375.8	152.2	735.8	6,237.4	6,274.0	6,255.5	5.5	5.7
1993	–60.7	658.6	719.3	1,283.4	518.3	360.7	157.7	765.0	6,537.6	6,618.8	6,576.8	5.0	5.5
1994	–90.9	721.2	812.1	1,313.0	510.2	349.2	161.0	802.8	6,885.7	7,037.9	6,955.2	5.9	6.3
1995	–83.9	819.4	903.3	1,356.4	509.1	344.4	164.7	847.3	7,238.9	7,353.5	7,287.1	4.6	4.5
1996	–91.2	873.8	965.0	1,405.2	518.4	351.0	167.4	886.8	7,629.5	7,752.8	7,674.0	5.4	5.4
1997	–93.4	965.4	1,058.8	1,454.6	520.2	346.0	174.3	934.4	8,043.5	8,204.3	8,102.9	5.9	5.8
1993: I	–46.6	647.1	693.7	1,271.5	521.3	363.6	157.7	750.1	6,413.8	6,491.1	6,468.1	3.9	4.1
II	–57.5	661.2	718.7	1,281.2	517.8	361.7	156.1	763.4	6,494.7	6,566.7	6,525.3	4.1	4.7
III	–72.1	646.8	718.9	1,285.3	515.7	358.0	157.7	769.6	6,560.6	6,646.7	6,596.9	4.1	5.0
IV	–66.6	679.4	746.0	1,295.5	518.5	359.4	159.1	777.0	6,681.3	6,770.8	6,717.1	8.1	7.7
1994: I	–76.6	678.5	755.1	1,291.0	506.9	344.9	162.0	784.1	6,741.9	6,870.9	6,811.2	5.5	6.0
II	–87.9	710.1	797.9	1,300.8	505.3	348.5	156.8	795.5	6,835.1	6,999.2	6,920.3	7.1	7.7
III	–103.4	732.6	836.0	1,332.3	520.4	359.7	160.7	811.9	6,936.3	7,090.0	6,992.3	4.4	5.3
IV	–95.6	763.7	859.2	1,328.0	508.3	343.6	164.7	819.6	7,029.6	7,191.3	7,096.8	6.4	5.8
1995: I	–94.7	787.8	882.5	1,344.1	512.3	346.1	166.2	831.8	7,111.8	7,265.5	7,189.3	4.3	4.2
II	–108.0	803.4	911.4	1,357.8	511.7	348.1	163.6	846.2	7,185.6	7,318.9	7,233.3	2.3	3.0
III	–74.5	835.1	909.6	1,362.3	511.2	345.5	165.7	851.1	7,287.7	7,379.3	7,313.2	5.3	3.3
IV	–58.4	851.5	909.9	1,361.4	501.2	337.9	163.3	860.2	7,370.4	7,450.3	7,412.6	4.9	3.9
1996: I	–75.7	856.6	932.3	1,387.5	517.1	350.3	166.8	870.4	7,479.1	7,571.0	7,515.0	5.7	6.6
II	–94.0	863.0	957.0	1,406.0	523.1	355.6	167.4	882.9	7,600.6	7,723.2	7,643.3	7.3	8.3
III	–115.5	861.4	976.9	1,408.6	519.0	351.3	167.7	889.6	7,653.6	7,818.9	7,708.6	3.9	5.1
IV	–79.6	914.2	993.8	1,418.8	514.6	346.7	167.9	904.2	7,784.6	7,898.0	7,829.0	6.1	4.1
1997: I	–93.3	930.2	1,023.5	1,439.4	517.0	341.1	175.9	922.4	7,895.2	8,048.2	7,952.4	7.2	7.8
II	–86.8	961.1	1,047.9	1,451.5	522.9	349.1	173.8	928.6	7,975.9	8,150.2	8,062.3	5.6	5.2
III	–94.7	981.7	1,076.4	1,459.5	521.0	347.1	173.9	938.5	8,116.2	8,265.5	8,162.0	5.4	5.8
IV	–99.8	988.6	1,088.4	1,468.1	520.1	346.5	173.6	947.9	8,182.6	8,353.3	8,234.9	4.2	4.3
1998: I	–123.7	973.3	1,097.1	1,464.9	511.6	331.6	180.0	953.3	8,288.7	8,508.0	8,369.4	6.4	7.6
II	–159.3	949.6	1,108.9	1,481.2	520.7	339.8	180.9	960.4	8,401.3	8,599.9	8,421.8	2.7	4.4
III	–165.5	936.2	1,101.7	1,492.3	519.4	343.7	175.7	972.9	8,480.9	8,703.4	8,510.9	4.7	4.9

[1] Gross domestic product (GDP) less exports of goods and services plus imports of goods and services.
[2] GDP plus net receipts of factor income from rest of the world.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–2.—*Real gross domestic product, 1959–98*

[Billions of chained (1992) dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product	Personal consumption expenditures				Gross private domestic investment						
							Fixed investment					
								Nonresidential				Change in business inventories
		Total	Durable goods	Nondurable goods	Services	Total	Total	Total	Structures	Producers' durable equipment	Residential	
1959	2,210.2	1,394.6				271.7						
1960	2,262.9	1,432.6				270.5						
1961	2,314.3	1,461.5				267.6						
1962	2,454.8	1,533.8				302.1						
1963	2,559.4	1,596.6				321.6						
1964	2,708.4	1,692.3				348.3						
1965	2,881.1	1,799.1				397.2						
1966	3,069.2	1,902.0				430.6						
1967	3,147.2	1,958.6				411.8						
1968	3,293.9	2,070.2				433.3						
1969	3,393.6	2,147.5				458.3						
1970	3,397.6	2,197.8				426.1						
1971	3,510.0	2,279.5				474.9						
1972	3,702.3	2,415.9				531.8						
1973	3,916.3	2,532.6				595.5						
1974	3,891.2	2,514.7				546.5						
1975	3,873.9	2,570.0				446.6						
1976	4,082.9	2,714.3				537.4						
1977	4,273.6	2,829.8				622.1						
1978	4,503.0	2,951.6				693.4						
1979	4,630.6	3,020.2				709.7						
1980	4,615.0	3,009.7				628.3						
1981	4,720.7	3,046.4				686.0						
1982	4,620.3	3,081.5	285.5	1,080.6	1,728.2	587.2	610.4	464.3	207.2	260.3	140.1	−15.6
1983	4,803.7	3,240.6	327.4	1,112.4	1,809.0	642.1	654.2	456.4	185.7	272.4	197.6	−5.7
1984	5,140.1	3,407.6	374.9	1,151.8	1,883.0	833.4	762.4	535.4	212.2	324.6	226.4	75.3
1985	5,323.5	3,566.5	411.4	1,178.3	1,977.3	823.8	799.3	568.4	227.8	342.4	229.5	30.2
1986	5,487.7	3,708.7	448.4	1,215.9	2,041.4	811.8	805.0	548.5	203.3	345.9	257.0	11.1
1987	5,649.5	3,822.3	454.9	1,239.3	2,126.9	821.5	799.4	542.4	195.9	346.9	257.6	26.4
1988	5,865.2	3,972.7	483.5	1,274.4	2,212.4	828.2	818.3	566.0	196.8	369.2	252.5	11.7
1989	6,062.0	4,064.6	496.2	1,303.5	2,262.3	863.5	832.0	588.8	201.2	387.6	243.2	33.3
1990	6,136.3	4,132.2	493.3	1,316.1	2,321.3	815.0	805.8	585.2	203.3	381.9	220.6	10.4
1991	6,079.4	4,105.8	462.0	1,302.9	2,341.0	738.1	741.3	547.7	181.6	366.2	193.4	−3.0
1992	6,244.4	4,219.8	488.5	1,321.8	2,409.4	790.4	783.4	557.9	169.2	388.7	225.6	7.0
1993	6,389.6	4,343.6	523.8	1,351.0	2,468.9	863.6	842.8	600.2	170.8	429.6	242.6	22.1
1994	6,610.7	4,486.0	561.2	1,389.9	2,535.5	975.7	915.5	648.4	172.5	476.8	267.0	60.6
1995	6,761.7	4,605.6	589.1	1,417.6	2,599.6	996.1	966.0	710.6	180.7	531.7	256.8	27.7
1996	6,994.8	4,752.4	626.1	1,450.9	2,676.7	1,084.1	1,050.6	776.6	189.7	589.8	275.9	30.0
1997	7,269.8	4,913.5	668.6	1,486.3	2,761.5	1,206.4	1,138.0	859.4	203.2	660.9	282.8	63.2
1993: I	6,327.9	4,286.8	504.0	1,337.5	2,445.3	845.5	814.8	577.8	168.0	409.8	237.0	32.3
II	6,359.9	4,322.8	519.3	1,347.8	2,455.9	846.1	831.1	595.1	170.3	424.9	236.1	16.6
III	6,393.5	4,366.6	529.9	1,356.8	2,480.0	858.6	844.5	602.3	171.7	430.7	242.2	15.3
IV	5,476.9	4,398.0	542.1	1,361.8	2,494.4	904.0	880.8	625.6	173.1	452.9	255.1	24.2
1994: I	6,524.5	4,439.4	550.7	1,378.4	2,510.9	939.9	887.8	626.2	166.3	460.6	261.3	53.1
II	6,600.3	4,472.2	555.8	1,385.5	2,531.4	987.8	913.2	641.2	174.5	467.3	271.5	75.9
III	6,629.5	4,498.2	561.7	1,393.2	2,543.8	972.2	922.7	653.2	174.0	480.0	269.4	49.7
IV	6,688.6	4,534.1	576.6	1,402.5	2,555.9	1,003.0	938.5	672.9	175.0	499.1	265.9	63.6
1995: I	6,717.5	4,555.3	575.2	1,410.4	2,570.4	1,013.5	957.1	698.4	179.5	520.4	259.9	54.3
II	6,724.2	4,593.6	583.5	1,415.9	2,594.8	982.0	957.8	710.2	181.7	529.9	249.5	21.7
III	6,779.5	4,623.4	595.3	1,418.5	2,610.3	983.4	965.8	711.7	181.5	531.8	255.6	14.7
IV	6,825.8	4,650.0	602.4	1,425.6	2,622.9	1,005.4	983.1	722.3	179.8	544.8	262.1	20.1
1996: I	6,882.0	4,692.1	611.0	1,433.5	2,648.5	1,029.3	1,011.4	744.8	182.6	565.0	268.0	14.4
II	6,983.9	4,746.6	629.5	1,450.4	2,668.4	1,072.8	1,043.5	764.4	185.9	581.6	280.2	26.1
III	7,020.0	4,768.3	626.5	1,454.7	2,688.1	1,118.1	1,067.1	790.1	189.9	604.0	279.0	47.5
IV	7,093.1	4,802.6	637.5	1,465.1	2,701.7	1,116.1	1,080.4	807.0	200.6	608.8	276.3	32.1
1997: I	7,166.7	4,853.4	656.3	1,477.9	2,722.1	1,156.6	1,096.0	820.9	202.5	621.0	278.4	56.3
II	7,236.5	4,872.7	653.8	1,477.1	2,743.6	1,211.3	1,127.0	848.2	199.3	653.8	282.5	79.0
III	7,311.2	4,947.0	679.6	1,495.7	2,775.4	1,215.8	1,159.3	882.2	205.2	682.6	282.3	51.0
IV	7,364.6	4,981.0	684.8	1,494.3	2,804.8	1,241.9	1,169.5	886.2	205.7	686.4	287.9	66.5
1998: I	7,464.7	5,055.1	710.3	1,521.2	2,829.3	1,321.8	1,224.9	931.9	203.1	738.8	298.5	91.4
II	7,498.6	5,130.2	729.4	1,540.9	2,866.8	1,306.5	1,264.1	960.4	201.9	771.3	309.1	38.2
III	7,566.5	5,181.8	733.7	1,549.1	2,904.8	1,331.6	1,270.9	958.7	202.0	769.3	316.5	55.7

See next page for continuation of table.

TABLE B–2.—*Real gross domestic product, 1959–98*—Continued

[Billions of chained (1992) dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Net exports of goods and services			Government consumption expenditures and gross investment					Final sales of domestic product	Gross domestic purchases [1]	Addendum: Gross national product [2]	Percent change from preceding period	
					Federal								
	Net exports	Exports	Imports	Total	Total	National defense	Nondefense	State and local				Gross domestic product	Gross domestic purchases [1]
1959		71.9	106.6	618.5					2,206.9	2,268.0	2,222.0	7.4	7.8
1960		86.8	108.1	617.2					2,264.2	2,304.1	2,276.0	2.4	1.6
1961		88.3	107.3	647.2					2,318.0	2,354.3	2,329.1	2.3	2.2
1962		93.0	119.5	686.0					2,445.4	2,503.0	2,471.5	6.1	6.3
1963		100.0	122.7	701.9					2,552.4	2,604.2	2,577.3	4.3	4.0
1964		113.3	129.2	715.9					2,705.1	2,745.9	2,727.8	5.8	5.4
1965		115.6	143.0	737.6					2,860.4	2,932.1	2,901.4	6.4	6.8
1966		123.4	164.2	804.6					3,033.5	3,134.0	3,087.8	6.5	6.9
1967		126.1	176.2	865.6					3,125.1	3,221.1	3,166.4	2.5	2.8
1968		135.3	202.5	892.4					3,278.0	3,382.7	3,314.5	4.7	5.0
1969		142.7	214.0	887.5					3,377.2	3,485.6	3,413.3	3.0	3.0
1970		158.1	223.1	866.8					3,406.5	3,478.5	3,417.1	.1	–.2
1971		159.2	235.0	851.0					3,499.8	3,602.4	3,532.1	3.3	3.6
1972		172.0	261.0	854.1					3,689.5	3,806.2	3,726.3	5.5	5.7
1973		209.6	272.6	848.4					3,883.9	3,989.3	3,950.1	5.8	4.8
1974		229.8	265.3	862.9					3,873.4	3,928.6	3,930.2	–.6	–1.5
1975		228.2	235.4	876.3					3,906.4	3,875.9	3,903.3	–.4	–1.3
1976		241.6	281.5	876.8					4,061.7	4,121.6	4,118.8	5.4	6.4
1977		247.4	311.6	884.7					4,240.8	4,345.7	4,314.5	4.7	5.4
1978		273.1	338.6	910.6					4,464.4	4,574.9	4,543.7	5.4	5.3
1979		299.0	344.3	924.9					4,614.4	4,674.6	4,687.4	2.8	2.2
1980		331.4	321.3	941.4					4,641.9	4,581.5	4,670.8	–.3	–2.0
1981		335.3	329.7	947.7					4,691.6	4,693.1	4,769.9	2.3	2.4
1982	–14.1	311.4	325.5	960.1	429.4	316.5	113.3	531.4	4,651.2	4,619.3	4,662.0	–2.1	–1.6
1983	–63.3	303.3	366.6	987.3	452.7	334.6	118.5	534.9	4,821.2	4,864.3	4,844.8	4.0	5.3
1984	–127.3	328.4	455.7	1,018.4	463.7	348.1	115.9	555.0	5,061.6	5,276.2	5,178.0	7.0	8.5
1985	–147.9	337.3	485.2	1,080.1	495.6	374.1	121.8	584.7	5,296.9	5,482.8	5,346.7	3.6	3.9
1986	–163.9	362.2	526.1	1,135.0	518.4	393.4	125.2	616.9	5,480.9	5,663.9	5,501.2	3.1	3.3
1987	–156.2	402.0	558.2	1,165.9	534.4	409.2	125.3	631.8	5,626.0	5,816.7	5,658.2	2.9	2.7
1988	–114.4	465.8	580.2	1,180.9	524.6	405.5	119.1	656.6	5,855.1	5,986.1	5,878.5	3.8	2.9
1989	–82.7	520.2	603.0	1,213.9	531.5	401.6	130.1	682.6	6,028.7	6,147.8	6,075.7	3.4	2.7
1990	–61.9	564.4	626.3	1,250.4	541.9	401.5	140.5	708.6	6,126.7	6,199.8	6,157.0	1.2	.8
1991	–22.3	599.9	622.2	1,258.0	539.4	397.5	142.0	718.7	6,082.6	6,101.6	6,094.9	–.9	–1.6
1992	–29.5	639.4	669.0	1,263.8	528.0	375.8	152.2	735.8	6,237.4	6,274.0	6,255.5	2.7	2.8
1993	–70.2	658.2	728.4	1,252.1	505.7	354.4	151.2	746.4	6,368.9	6,459.0	6,408.0	2.3	2.9
1994	–104.6	712.4	817.0	1,252.3	486.6	336.9	149.5	765.7	6,551.2	6,712.7	6,619.1	3.5	3.9
1995	–96.5	792.6	889.0	1,254.5	470.6	323.5	146.9	783.9	6,731.7	6,855.0	6,779.5	2.3	2.1
1996	–111.2	860.0	971.2	1,268.2	465.6	319.1	146.2	802.7	6,961.6	7,101.1	7,008.4	3.4	3.6
1997	–136.1	970.0	1,106.1	1,285.0	458.0	308.9	148.6	827.1	7,203.7	7,396.5	7,266.2	3.9	4.2
1993: I	–54.7	617.2	701.9	1,250.1	512.1	359.2	152.9	735.0	6,297.3	6,382.3	6,351.3	.1	1.0
II	–62.6	660.1	722.7	1,253.1	507.8	356.7	151.1	745.3	6,344.9	6,422.0	6,375.9	2.0	2.5
III	–83.1	646.3	729.4	1,250.5	501.5	351.1	150.3	749.1	6,379.3	6,475.6	6,415.3	2.1	3.4
IV	–80.5	679.1	759.7	1,254.7	501.3	350.8	150.4	753.4	6,453.8	6,556.2	6,489.7	5.3	5.1
1994: I	–97.6	676.0	773.6	1,241.9	487.2	335.1	151.9	754.7	6,473.0	6,620.2	6,540.5	3.0	4.0
II	–103.9	704.1	808.0	1,243.3	481.2	335.9	145.1	762.2	6,526.7	6,701.8	6,609.3	4.7	5.0
III	–111.1	722.1	833.2	1,268.1	496.4	347.0	149.4	771.7	6,580.4	6,737.5	6,635.6	1.8	2.1
IV	–105.9	747.3	853.2	1,255.8	481.7	329.6	151.7	774.1	6,624.8	6,791.3	6,691.2	3.6	3.2
1995: I	–109.5	763.9	873.4	1,256.2	478.6	328.3	150.0	777.6	6,661.8	6,823.3	6,735.9	1.7	1.9
II	–114.7	774.0	888.7	1,259.9	476.2	328.4	147.6	783.7	6,700.0	6,834.6	6,746.3	.4	.7
III	–86.8	806.3	893.1	1,257.6	473.1	323.9	148.8	784.5	6,761.7	6,863.5	6,788.9	3.3	1.7
IV	–74.8	826.1	900.9	1,244.5	454.6	313.3	141.1	790.0	6,803.3	6,898.4	6,846.8	2.8	2.0
1996: I	–95.5	833.6	929.1	1,254.5	463.5	318.7	144.5	791.0	6,863.6	6,974.0	6,902.1	3.3	4.5
II	–113.5	845.5	958.9	1,276.2	472.6	325.0	147.3	803.6	6,954.7	7,092.8	6,999.0	6.1	7.0
III	–140.1	849.9	990.0	1,271.1	467.0	319.8	146.8	804.2	6,970.3	7,152.6	7,027.1	2.1	3.4
IV	–95.9	911.1	1,007.0	1,271.2	459.5	313.0	146.1	811.8	7,057.9	7,185.2	7,105.3	4.2	1.8
1997: I	–121.5	929.4	1,050.9	1,277.7	456.3	305.0	150.7	821.5	7,108.1	7,281.3	7,167.8	4.2	5.5
II	–131.6	963.6	1,095.2	1,284.4	460.4	311.7	148.2	824.2	7,155.5	7,359.4	7,239.3	4.0	4.4
III	–142.4	988.1	1,130.5	1,288.9	458.9	310.2	148.2	830.1	7,256.3	7,443.1	7,307.0	4.2	4.6
IV	–149.0	998.8	1,147.8	1,289.2	456.5	308.7	147.3	832.9	7,294.8	7,502.1	7,350.7	3.0	3.2
1998: I	–198.5	991.9	1,190.4	1,283.0	446.1	293.3	151.9	837.1	7,372.5	7,644.9	7,455.2	5.5	7.8
II	–245.2	972.1	1,217.3	1,294.8	454.1	300.3	152.9	840.9	7,456.4	7,718.6	7,485.9	1.8	3.9
III	–259.0	965.3	1,224.3	1,299.6	452.5	303.5	148.4	847.3	7,507.6	7,798.8	7,546.7	3.7	4.2

[1] Gross domestic product (GDP) less exports of goods and services plus imports of goods and services.
[2] GDP plus net receipts of factor income from rest of the world.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–3.—*Quantity and price indexes for gross domestic product, and percent changes, 1959–98*

[Quarterly data are seasonally adjusted]

Year or quarter	Gross domestic product (GDP)							
	Index numbers, 1992=100				Percent change from preceding period [1]			
	GDP (current dollars)	Real GDP (chain-type quantity index)	GDP chain-type price index	GDP implicit price deflator	GDP (current dollars)	Real GDP (chain-type quantity index)	GDP chain-type price index	GDP implicit price deflator
1959	8.12	35.39	22.95	22.95	8.5	7.4	1.0	1.0
1960	8.43	36.24	23.27	23.27	3.8	2.4	1.4	1.4
1961	8.72	37.06	23.54	23.54	3.5	2.3	1.2	1.2
1962	9.37	39.31	23.84	23.84	7.4	6.1	1.3	1.3
1963	9.89	40.99	24.12	24.12	5.5	4.3	1.2	1.2
1964	10.62	43.37	24.48	24.48	7.4	5.8	1.5	1.5
1965	11.52	46.14	24.95	24.96	8.5	6.4	1.9	2.0
1966	12.62	49.15	25.66	25.67	9.5	6.5	2.8	2.8
1967	13.35	50.40	26.48	26.49	5.8	2.5	3.2	3.2
1968	14.58	52.75	27.64	27.64	9.2	4.7	4.4	4.4
1969	15.73	54.35	28.94	28.94	7.9	3.0	4.7	4.7
1970	16.58	54.41	30.48	30.48	5.4	.1	5.3	5.3
1971	18.02	56.21	32.05	32.06	8.7	3.3	5.2	5.2
1972	19.81	59.29	33.42	33.42	9.9	5.5	4.2	4.2
1973	22.14	62.72	35.30	35.30	11.7	5.8	5.6	5.6
1974	23.97	62.32	38.46	38.47	8.3	–.6	8.9	9.0
1975	26.11	62.04	42.09	42.09	8.9	–.4	9.4	9.4
1976	29.13	65.38	44.55	44.55	11.5	5.4	5.8	5.8
1977	32.46	68.44	47.42	47.43	11.4	4.7	6.5	6.5
1978	36.69	72.11	50.88	50.89	13.0	5.4	7.3	7.3
1979	40.96	74.16	55.22	55.23	11.6	2.8	8.5	8.5
1980	44.59	73.91	60.34	60.33	8.9	–.3	9.3	9.2
1981	49.90	75.60	66.01	66.01	11.9	2.3	9.4	9.4
1982	51.92	73.99	70.18	70.17	4.1	–2.1	6.3	6.3
1983	56.28	76.93	73.16	73.16	8.4	4.0	4.3	4.3
1984	62.49	82.32	75.92	75.92	11.0	7.0	3.8	3.8
1985	66.95	85.25	78.53	78.53	7.1	3.6	3.4	3.4
1986	70.82	87.88	80.58	80.58	5.8	3.1	2.6	2.6
1987	75.14	90.47	83.06	83.06	6.1	2.9	3.1	3.1
1988	80.87	93.93	86.10	86.09	7.6	3.8	3.7	3.7
1989	87.10	97.08	89.72	89.72	7.7	3.4	4.2	4.2
1990	91.98	98.27	93.64	93.60	5.6	1.2	4.4	4.3
1991	94.75	97.36	97.32	97.32	3.0	–.9	3.9	4.0
1992	100.00	100.00	100.00	100.00	5.5	2.7	2.8	2.8
1993	105.02	102.32	102.64	102.64	5.0	2.3	2.6	2.6
1994	111.25	105.87	105.09	105.09	5.9	3.5	2.4	2.4
1995	116.42	108.28	107.51	107.51	4.6	2.3	2.3	2.3
1996	122.69	112.02	109.54	109.53	5.4	3.4	1.9	1.9
1997	129.89	116.42	111.57	111.57	5.9	3.9	1.9	1.9
1993: I	103.20	101.34	101.85	101.84	3.9	.1	3.9	3.9
II	104.24	101.85	102.38	102.35	4.1	2.0	2.1	2.0
III	105.29	102.39	102.83	102.83	4.1	2.1	1.8	1.9
IV	107.36	103.72	103.52	103.51	8.1	5.3	2.7	2.7
1994: I	108.81	104.49	104.16	104.13	5.5	3.0	2.5	2.4
II	110.68	105.70	104.74	104.71	7.1	4.7	2.2	2.2
III	111.88	106.17	105.39	105.39	4.4	1.8	2.5	2.6
IV	113.63	107.11	106.07	106.09	6.4	3.6	2.6	2.7
1995: I	114.83	107.58	106.74	106.75	4.3	1.7	2.5	2.5
II	115.48	107.68	107.26	107.24	2.3	.4	2.0	1.8
III	116.98	108.57	107.76	107.75	5.3	3.3	1.9	1.9
IV	118.38	109.31	108.30	108.29	4.9	2.8	2.0	2.0
1996: I	120.03	110.21	108.90	108.91	5.7	3.3	2.2	2.3
II	122.18	111.84	109.28	109.24	7.3	6.1	1.4	1.2
III	123.36	112.42	109.77	109.74	3.9	2.1	1.8	1.8
IV	125.21	113.59	110.21	110.23	6.1	4.2	1.6	1.8
1997: I	127.39	114.77	110.97	111.00	7.2	4.2	2.8	2.8
II	129.13	115.89	111.45	111.43	5.6	4.0	1.7	1.6
III	130.85	117.08	111.77	111.76	5.4	4.2	1.2	1.2
IV	132.19	117.94	112.09	112.08	4.2	3.0	1.1	1.2
1998: I	134.27	119.54	112.33	112.32	6.4	5.5	.9	.8
II	135.17	120.09	112.57	112.56	2.7	1.8	.9	.9
III	136.73	121.17	112.85	112.84	4.7	3.7	1.0	1.0

[1] Percent changes based on unrounded data. Quarterly percent changes are at annual rates.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–4.—*Percent changes in real gross domestic product, 1959–98*

[Percent change from preceding period; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product	Personal consumption expenditures				Gross private domestic investment				Exports and imports of goods and services		Government consumption expenditures and gross investment		
						Nonresidential fixed								
		Total	Durable goods	Nondurable goods	Services	Total	Structures	Producers' durable equipment	Residential	Exports	Imports	Total	Federal	State and local
1959	7.4	5.7	13.4	4.1	5.2	8.3	2.4	12.4	25.5	0.9	10.5	5.7	7.2	3.5
1960	2.4	2.7	2.0	1.5	4.4	5.6	7.9	4.1	–7.1	20.8	1.3	–.2	–3.1	4.1
1961	2.3	2.0	–3.8	1.8	4.1	–.9	1.4	–2.4	.3	1.7	–.7	4.9	3.9	6.2
1962	6.1	4.9	11.7	3.1	4.9	8.7	4.5	11.6	9.6	5.4	11.3	6.0	8.3	2.9
1963	4.3	4.1	9.7	2.1	4.5	5.0	1.1	7.6	11.8	7.5	2.7	2.3	–.4	6.0
1964	5.8	6.0	9.2	4.9	6.1	11.8	10.4	12.6	5.8	13.3	5.3	2.0	–1.7	6.8
1965	6.4	5.3	12.7	5.3	5.3	17.5	15.9	18.2	–2.9	2.0	10.6	3.0	.0	6.7
1966	6.5	5.7	8.5	5.5	5.1	12.1	6.8	15.5	–8.5	6.7	14.9	9.1	11.4	6.4
1967	2.5	3.0	1.6	1.6	4.8	–1.6	–2.5	–1.0	–3.1	2.2	7.3	7.6	9.9	4.9
1968	4.7	5.7	11.0	4.5	5.2	4.3	1.4	6.1	13.6	7.3	14.9	3.1	1.0	5.7
1969	3.0	3.7	3.6	2.7	4.8	7.2	5.4	8.3	3.0	5.5	5.7	–.6	–3.4	2.8
1970	.1	2.3	–3.2	2.4	4.0	–1.0	.3	–1.8	–6.0	10.8	4.3	–2.3	–7.1	2.8
1971	3.3	3.7	10.0	1.8	3.7	–.1	–1.6	.8	27.4	.7	5.3	–1.8	–7.1	3.3
1972	5.5	6.0	12.7	4.4	5.4	9.0	3.1	12.7	17.8	8.1	11.0	.4	–1.3	2.7
1973	5.8	4.8	10.3	3.3	4.5	14.6	8.2	18.5	–.6	21.8	4.5	–.7	–4.9	3.0
1974	–.6	–.7	–6.9	–2.0	2.4	.5	–2.1	2.1	–20.6	9.6	–2.7	1.7	–.6	3.6
1975	–.4	2.2	.0	1.5	3.5	–10.5	–10.5	–10.5	–13.0	–.7	–11.3	1.4	–.2	2.9
1976	5.4	5.6	12.8	5.0	4.2	4.8	2.5	6.1	23.6	5.9	19.6	.1	–1.0	.8
1977	4.7	4.3	9.3	2.6	4.2	11.8	4.9	15.6	21.2	2.4	10.7	.9	1.6	.4
1978	5.4	4.3	5.3	3.5	4.7	13.7	10.9	15.1	6.6	10.4	8.7	2.9	2.1	3.6
1979	2.8	2.3	–.5	2.3	3.2	9.6	12.6	8.1	–3.7	9.5	1.7	1.6	1.5	1.6
1980	–.3	–.3	–8.0	–.4	1.9	–.5	6.7	–4.4	–21.1	10.8	–6.7	1.8	4.2	.0
1981	2.3	1.2	1.2	.9	1.5	5.3	7.9	3.7	–8.0	1.2	2.6	.7	4.2	–2.0
1982	–2.1	1.2	–.1	.6	1.9	–4.4	–1.5	–6.4	–18.2	–7.1	–1.3	1.3	3.2	–.3
1983	4.0	5.2	14.7	2.9	4.7	–1.7	–10.4	4.6	41.1	–2.6	12.6	2.8	5.4	.7
1984	7.0	5.2	14.5	3.5	4.1	17.3	14.3	19.2	14.6	8.3	24.3	3.1	2.4	3.8
1985	3.6	4.7	9.7	2.5	5.0	6.2	7.3	5.5	1.4	2.7	6.5	6.1	6.9	5.3
1986	3.1	4.0	9.0	3.2	3.2	–3.5	–10.8	1.0	12.0	7.4	8.4	5.1	4.6	5.5
1987	2.9	3.1	1.5	1.9	4.2	–1.1	–3.6	.3	.2	11.0	6.1	2.7	3.1	2.4
1988	3.8	3.9	6.3	2.8	4.0	4.4	.5	6.4	–2.0	15.9	3.9	1.3	–1.8	3.9
1989	3.4	2.3	2.6	2.3	2.3	4.0	2.2	5.0	–3.7	11.7	3.9	2.8	1.3	4.0
1990	1.2	1.7	–.5	1.0	2.6	–.6	1.1	–1.5	–9.3	9.5	3.9	3.0	2.0	3.8
1991	–.9	–.6	–6.4	–1.0	.8	–6.4	–10.7	–4.1	–12.3	6.3	–.7	.6	–.5	1.4
1992	2.7	2.8	5.8	1.5	2.9	1.9	–6.8	6.2	16.6	6.6	7.5	.5	–2.1	2.4
1993	2.3	2.9	7.2	2.2	2.5	7.6	1.0	10.5	7.6	2.9	8.9	–.9	–4.2	1.5
1994	3.5	3.3	7.1	2.9	2.7	8.0	1.0	11.0	10.1	8.2	12.2	.0	–3.8	2.6
1995	2.3	2.7	5.0	2.0	2.5	9.6	4.8	11.5	–3.8	11.3	8.8	.2	–3.3	2.4
1996	3.4	3.2	6.3	2.4	3.0	9.3	5.0	10.9	7.4	8.5	9.2	1.1	–1.1	2.4
1997	3.9	3.4	6.8	2.4	3.2	10.7	7.1	12.1	2.5	12.8	13.9	1.3	–1.6	3.1
1993: I	1	.4	–.7	–.7	1.3	6.2	6.0	6.4	.6	–1.2	7.6	–6.9	–15.4	–.3
II	2.0	3.4	12.6	3.1	1.7	12.5	5.5	15.6	–1.6	8.2	12.4	1.0	–3.3	4.0
III	2.1	4.1	8.4	2.7	4.0	4.9	3.4	5.5	10.8	–8.1	3.8	–.8	–4.9	2.1
IV	5.3	2.9	9.6	1.5	2.3	16.4	3.3	22.3	23.1	21.9	17.7	1.3	–.1	2.3
1994: I	3.0	3.8	6.4	5.0	2.7	.4	–14.8	7.0	10.0	–1.8	7.6	–4.0	–10.7	.7
II	4.7	3.0	3.8	2.1	3.3	9.9	21.1	5.9	16.5	17.7	19.0	.4	–4.9	4.0
III	1.8	2.3	4.3	2.2	2.0	7.7	–1.1	11.4	–3.1	10.6	13.1	8.2	13.3	5.1
IV	3.6	3.2	11.0	2.7	1.9	12.6	2.3	16.9	–5.0	14.7	9.9	–3.8	–11.3	1.2
1995: I	1.7	1.9	–1.0	2.3	2.3	16.0	10.7	18.1	–8.8	9.2	9.8	.1	–2.6	1.8
II	.4	3.4	5.9	1.6	3.8	6.9	5.1	7.6	–15.0	5.4	7.2	1.2	–2.0	3.2
III	3.3	2.6	8.3	.7	2.4	.9	–.4	1.4	10.1	17.8	2.0	–.8	–2.6	.4
IV	2.8	2.3	4.8	2.0	1.9	6.1	–3.8	10.1	10.6	10.2	3.5	–4.1	–14.7	2.8
1996: I	3.3	3.7	5.8	2.2	4.0	13.1	6.4	15.7	9.3	3.7	13.1	3.2	8.0	.5
II	6.1	4.7	12.7	4.8	3.0	11.0	7.4	12.3	19.5	5.8	13.5	7.1	8.1	6.5
III	2.1	1.8	–1.9	1.2	3.0	14.2	8.9	16.2	–1.7	2.1	13.6	–1.6	–4.7	.3
IV	4.2	2.9	7.2	2.9	2.0	8.5	24.5	3.2	–3.9	32.0	7.0	.0	–6.3	3.8
1997: I	4.2	4.3	12.3	3.6	3.1	7.0	3.9	8.3	3.1	8.3	18.6	2.1	–2.7	4.9
II	4.0	1.6	–1.5	–.2	3.2	14.0	–6.2	22.8	6.1	15.5	17.9	2.1	3.6	1.3
III	4.2	6.2	16.8	5.1	4.7	17.0	12.4	18.8	–.4	10.6	13.5	1.4	–1.2	2.9
IV	3.0	2.8	3.1	–.4	4.3	1.8	.9	2.2	8.2	4.4	6.3	.1	–2.1	1.3
1998: I	5.5	6.1	15.8	7.4	3.5	22.2	–4.9	34.3	15.6	–2.8	15.7	–1.9	–8.8	2.1
II	1.8	6.1	11.2	5.3	5.4	12.8	–2.3	18.8	15.0	–7.7	9.3	3.7	7.3	1.8
III	3.7	4.1	2.4	2.1	5.4	–.7	.2	–1.0	9.9	–2.8	2.3	1.5	–1.4	3.1

Note.—Percent changes based on unrounded data.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–5.—*Contributions to percent change in real gross domestic product, 1959–98*

[Percentage points, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product (percent change)	Personal consumption expenditures				Gross private domestic investment						
							Fixed investment					Change in business inventories
								Nonresidential				
		Total	Durable goods	Nondurable goods	Services	Total	Total	Total	Structures	Producers' durable equipment	Residential	
1959	7.4	3.65	1.07	1.25	1.33	2.90	1.97	0.75	0.09	0.66	1.22	0.93
1960	2.4	1.71	.17	.44	1.10	−.07	.12	.51	.28	.23	−.39	−.19
1961	2.3	1.27	−.31	.53	1.05	−.16	−.07	−.08	.05	−.13	.01	−.09
1962	6.1	3.11	.89	.90	1.31	1.83	1.24	.77	.16	.61	.46	.60
1963	4.3	2.54	.78	.58	1.18	.96	1.03	.45	.04	.41	.58	−.07
1964	5.8	3.72	.77	1.34	1.61	1.25	1.35	1.05	.36	.70	.30	−.10
1965	6.4	3.91	1.07	1.43	1.41	2.15	1.47	1.63	.57	1.05	−.15	.68
1966	6.5	3.53	.73	1.46	1.34	1.38	.82	1.25	.27	.98	−.43	.56
1967	2.5	1.82	.14	.42	1.26	−.72	−.30	−.17	−.10	−.07	−.13	−.43
1968	4.7	3.48	.93	1.18	1.37	.80	.97	.44	.05	.39	.53	−.17
1969	3.0	2.29	.31	.69	1.29	.89	.86	.73	.20	.53	.13	.03
1970	.1	1.44	−.28	.63	1.09	−1.10	−.36	−.10	.01	−.12	−.26	−.74
1971	3.3	2.32	.81	.47	1.04	1.66	1.08	−.01	−.07	.05	1.10	.58
1972	5.5	3.72	1.08	1.11	1.54	1.87	1.78	.89	.12	.77	.89	.10
1973	5.8	3.01	.90	.83	1.28	1.99	1.43	1.47	.31	1.16	−.04	.56
1974	−.6	−.44	−.61	−.50	.67	−1.45	−1.07	.06	−.09	.14	−1.13	−.38
1975	−.4	1.36	.00	.38	.98	−3.04	−1.75	−1.18	−.43	−.75	−.57	−1.29
1976	5.4	3.54	1.04	1.27	1.23	2.81	1.41	.50	.09	.41	.91	1.40
1977	4.7	2.69	.80	.65	1.24	2.49	2.19	1.22	.18	1.04	.98	.30
1978	5.4	2.71	.47	.86	1.39	2.03	1.88	1.51	.41	1.10	.37	.15
1979	2.8	1.45	−.04	.56	.94	.44	.93	1.14	.51	.64	−.21	−.49
1980	−.3	−.22	−.67	−.11	.56	−2.16	−1.23	−.06	.30	−.36	−1.17	−.93
1981	2.3	.77	.09	.22	.47	1.54	.32	.67	.39	.29	−.35	1.22
1982	−2.1	.72	−.01	.14	.58	−2.56	−1.29	−.57	−.08	−.49	−.71	−1.27
1983	4.0	3.31	1.07	.71	1.53	1.42	1.12	−.21	−.54	.33	1.33	.30
1984	7.0	3.35	1.14	.83	1.38	4.57	2.56	1.93	.61	1.32	.63	2.01
1985	3.6	2.98	.80	.52	1.66	−.21	.80	.73	.33	.41	.06	−1.00
1986	3.1	2.58	.77	.70	1.11	−.25	.12	−.42	−.50	.07	.54	−.37
1987	2.9	2.01	.13	.42	1.46	.20	−.11	−.12	−.14	.02	.01	.31
1988	3.8	2.60	.55	.61	1.44	.13	.36	.46	.02	.44	−.10	−.23
1989	3.4	1.54	.23	.49	.82	.65	.25	.42	.08	.34	−.17	.40
1990	1.2	1.10	−.05	.21	.94	−.85	−.46	−.06	.04	−.10	−.39	−.39
1991	−.9	−.43	−.52	−.22	.31	−1.30	−1.09	−.64	−.37	−.27	−.46	−.21
1992	2.7	1.86	.43	.31	1.12	.85	.67	.15	−.20	.35	.53	.18
1993	2.3	1.98	.56	.46	.96	1.17	.95	.67	.03	.65	.27	.22
1994	3.5	2.23	.58	.60	1.06	1.73	1.12	.74	.03	.71	.39	.61
1995	2.3	1.81	.41	.41	.99	.30	.75	.91	.13	.78	−.16	−.45
1996	3.4	2.17	.52	.48	1.18	1.26	1.21	.92	.14	.78	.29	.04
1997	3.9	2.31	.56	.49	1.26	1.65	1.18	1.08	.20	.88	.10	.47
1993: I	.1	.45	−.10	−.23	.79	3.43	.92	.88	.25	.63	.04	2.50
II	2.0	2.31	.97	.66	.67	.04	1.04	1.10	.15	.95	−.06	−1.00
III	2.1	2.80	.66	.56	1.56	.78	.84	.44	.09	.35	.40	−.06
IV	5.3	1.98	.76	.31	.91	2.84	2.27	1.43	.09	1.34	.82	.56
1994: I	3.0	2.60	.52	1.01	1.05	2.21	.43	.04	−.43	.47	.39	1.77
II	4.7	2.02	.31	.43	1.28	2.93	1.55	.90	.51	.39	.64	1.37
III	1.8	1.58	.35	.45	.77	−.92	.56	.70	−.03	.73	−.13	−1.47
IV	3.6	2.18	.87	.54	.75	1.84	.93	1.14	.06	1.08	−.21	.90
1995: I	1.7	1.25	−.09	.45	.88	.63	1.09	1.47	.27	1.19	−.37	−.46
II	.4	2.26	.47	.31	1.46	−1.79	.05	.67	.14	.54	−.62	−1.84
III	3.3	1.77	.66	.15	.95	.09	.47	.10	−.01	.11	.37	−.39
IV	2.8	1.57	.39	.41	.77	1.26	1.00	.61	−.11	.71	.40	.25
1996: I	3.3	2.50	.48	.45	1.57	1.33	1.65	1.29	.17	1.12	.36	−.32
II	6.1	3.21	1.03	.96	1.20	2.45	1.83	1.09	.20	.89	.73	.61
III	2.1	1.26	−.16	.24	1.18	2.48	1.29	1.37	.24	1.12	−.07	1.17
IV	4.2	1.97	.58	.57	.81	−.12	.72	.88	.64	.24	−.16	−.83
1997: I	4.2	2.91	.98	.71	1.20	2.17	.83	.71	.11	.59	.12	1.33
II	4.0	1.08	−.13	−.04	1.26	2.92	1.63	1.39	−.19	1.58	.24	1.27
III	4.2	4.19	1.30	1.00	1.85	.23	1.66	1.67	.35	1.32	−.02	−1.41
IV	3.0	1.88	.26	−.08	1.70	1.34	.48	.16	.03	.13	.32	.85
1998: I	5.5	4.09	1.23	1.41	1.40	4.07	2.82	2.21	−.15	2.36	.60	1.22
II	1.8	4.09	.91	1.01	2.14	−.75	1.95	1.35	−.07	1.42	.60	−2.66
III	3.7	2.78	.20	.42	2.15	1.22	.33	−.08	.01	−.09	.41	.89

See next page for continuation of table.

TABLE B–5.—*Contributions to percent change in real gross domestic product, 1959–98—Continued*

[Percentage points, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Net exports of goods and services							Government consumption expenditures and gross investment				
		Exports			Imports				Federal			
	Net exports	Total	Goods	Services	Total	Goods	Services	Total	Total	National defense	Nondefense	State and local
1959	-0.41	0.04	-0.02	0.06	-0.45	-0.48	0.03	1.28	0.96	0.31	0.65	0.32
1960	.79	.85	.76	.09	-.06	.05	-.11	-.05	-.41	-.22	-.18	.36
1961	.11	.08	.02	.06	.03	.00	.03	1.05	.49	.43	.05	.56
1962	-.21	.25	.17	.09	-.47	-.40	-.07	1.34	1.06	.63	.43	.28
1963	.24	.35	.29	.06	-.11	-.12	.00	.52	-.05	-.27	.22	.57
1964	.41	.63	.52	.12	-.23	-.19	-.04	.45	-.22	-.44	.23	.66
1965	-.35	.10	.02	.08	-.45	-.41	-.04	.66	.00	-.19	.19	.66
1966	-.32	.33	.27	.06	-.65	-.49	-.16	1.94	1.30	1.26	.04	.65
1967	-.23	.11	.02	.09	-.34	-.17	-.17	1.68	1.18	1.21	-.03	.50
1968	-.35	.36	.30	.06	-.70	-.68	-.03	.73	.13	.20	-.07	.60
1969	-.02	.27	.20	.07	-.29	-.20	-.09	-.13	-.43	-.49	.05	.30
1970	.32	.54	.44	.10	-.22	-.15	-.07	-.54	-.85	-.81	-.04	.31
1971	-.25	.04	-.02	.05	-.29	-.33	.04	-.42	-.80	-.90	.10	.38
1972	-.20	.42	.43	-.01	-.62	-.57	-.05	.08	-.18	-.35	.17	.26
1973	.93	1.21	1.01	.21	-.28	-.34	.06	-.15	-.50	-.49	-.01	.35
1974	.89	.68	.46	.22	.21	.17	.03	.36	-.06	-.19	.13	.42
1975	.90	-.06	-.16	.10	.96	.88	.08	.34	-.02	-.10	.07	.36
1976	-.97	.49	.32	.17	-1.45	-1.35	-.10	.01	-.09	-.13	.03	.11
1977	-.71	.20	.08	.11	-.90	-.84	-.06	.19	.14	.04	.10	.05
1978	.03	.81	.68	.13	-.78	-.67	-.11	.60	.18	.01	.17	.42
1979	.63	.79	.77	.02	-.16	-.14	-.02	.32	.13	.10	.03	.19
1980	1.69	.97	.86	.11	.71	.67	.04	.36	.36	.21	.14	.00
1981	-.15	.12	-.08	.20	-.27	-.18	-.09	.14	.37	.34	.03	-.23
1982	-.55	-.67	-.67	.00	.12	.21	-.08	.27	.30	.45	-.15	-.03
1983	-1.36	-.22	-.19	-.04	-1.14	-1.01	-.13	.60	.52	.41	.12	.08
1984	-1.58	.64	.46	.18	-2.22	-1.84	-.39	.66	.24	.30	-.06	.42
1985	-.45	.21	.20	.01	-.65	-.52	-.13	1.24	.66	.54	.12	.58
1986	-.31	.52	.27	.26	-.83	-.83	-.01	1.06	.45	.38	.07	.61
1987	.16	.80	.56	.23	-.63	-.40	-.24	.58	.30	.30	.00	.28
1988	.82	1.25	1.05	.20	-.43	-.36	-.07	.27	-.18	-.07	-.11	.45
1989	.60	1.02	.80	.23	-.43	-.37	-.05	.57	.12	-.07	.19	.45
1990	.37	.78	.55	.23	-.42	-.27	-.15	.61	.17	.00	.17	.43
1991	.67	.60	.48	.12	.07	.00	.07	.13	-.04	-.07	.02	.17
1992	-.12	.62	.46	.16	-.74	-.76	.02	.08	-.20	-.36	.17	.28
1993	-.64	.30	.24	.06	-.94	-.90	-.04	-.19	-.36	-.34	-.02	.17
1994	-.50	.82	.69	.13	-1.32	-1.22	-.10	.00	-.30	-.27	-.03	.30
1995	.14	1.17	.92	.25	-1.03	-.94	-.10	.03	-.24	-.20	-.04	.28
1996	-.19	.95	.76	.18	-1.13	-1.02	-.11	.20	-.08	-.06	-.01	.28
1997	-.27	1.43	1.21	.22	-1.71	-1.51	-.20	.24	-.11	-.15	.04	.35
1993: I	-1.48	-.19	-.69	.50	-1.30	-1.72	.42	-2.78	-2.22	-1.80	-.43	-.06
II	-.50	.81	.70	.11	-1.31	-1.21	-.10	.19	-.27	-.16	-.11	.47
III	-1.26	-.85	-.81	-.04	-.41	-.32	-.09	-.17	-.40	-.35	-.05	.24
IV	.18	2.01	1.90	.10	-1.82	-1.51	-.31	.26	-.01	-.02	.00	.27
1994: I	-1.02	-.20	-.27	.07	-.83	-.78	-.05	-.80	-.88	-.96	.09	.08
II	-.34	1.67	1.30	.37	-2.02	-1.94	-.08	.08	-.37	.05	-.42	.46
III	-.39	1.04	.98	.06	-1.43	-1.44	.01	1.52	.93	.66	.27	.58
IV	.34	1.45	1.24	.21	-1.11	-1.13	.02	-.75	-.89	-1.03	.15	.14
1995: I	-.17	.91	.64	.27	-1.09	-.72	-.37	.02	-.18	-.08	-.11	.21
II	-.26	.54	.45	.09	-.80	-.87	.07	.22	-.14	.01	-.14	.36
III	1.60	1.81	1.16	.64	-.20	-.14	-.06	-.15	-.19	-.27	.08	.05
IV	.70	1.10	.89	.21	-.40	-.29	-.11	-.78	-1.10	-.63	-.84	.33
1996: I	-1.10	.43	.57	-.14	-1.54	-1.36	-.18	.59	.53	.32	.20	.06
II	-.94	.65	.33	.33	-1.60	-1.52	-.09	1.28	.54	.37	.17	.74
III	-1.33	.23	.57	-.34	-1.58	-1.38	-.19	-.30	-.33	-.30	-.03	.04
IV	2.35	3.22	2.06	1.14	-.85	-.88	.02	.00	-.44	-.39	-.05	.44
1997: I	-1.24	.95	1.19	-.24	-2.21	-1.87	-.34	.37	-.18	-.46	.27	.55
II	-.45	1.76	1.37	.38	-2.21	-1.99	-.21	.38	.23	.38	-.15	.15
III	-.47	1.22	1.02	.20	-1.69	-1.38	-.31	.25	-.08	-.08	.00	.33
IV	-.30	.53	.67	-.14	-.83	-.71	-.12	.02	-.14	-.09	-.05	.15
1998: I	-2.24	-.33	-.29	-.04	-1.94	-1.75	-.19	-.34	-.57	-.84	.26	.24
II	-2.08	-.92	-.98	.06	-1.18	-1.19	.01	.64	.44	.38	.06	.20
III	-.62	-.32	.04	-.36	-.30	-.32	.01	.27	-.09	.17	-.26	.35

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–6.—*Chain-type quantity indexes for gross domestic product, 1959–98*

[Index numbers, 1992=100; quarterly data seasonally adjusted]

Year or quarter	Gross domestic product	Personal consumption expenditures				Gross private domestic investment					
							Fixed investment				
								Nonresidential			
		Total	Durable goods	Nondurable goods	Services	Total	Total	Total	Structures	Producers' durable equipment	Residential
1959	35.39	33.05	21.10	45.87	28.53	34.37	34.09	26.47	50.71	18.37	58.14
1960	36.24	33.95	21.53	46.56	29.78	34.22	34.36	27.95	54.74	19.12	54.01
1961	37.06	34.64	20.72	47.42	30.98	33.86	34.19	27.70	55.48	18.67	54.16
1962	39.31	36.35	23.14	48.91	32.52	38.23	37.28	30.11	57.98	20.83	59.35
1963	40.99	37.84	25.39	49.93	33.98	40.69	40.04	31.62	58.62	22.41	66.34
1964	43.37	40.10	27.73	52.39	36.04	44.06	43.87	35.34	64.71	25.23	70.20
1965	46.14	42.64	31.24	55.18	37.96	50.25	48.31	41.46	75.03	29.81	68.15
1966	49.15	45.07	33.88	58.19	39.88	54.48	50.94	46.50	80.17	34.43	62.05
1967	50.40	46.41	34.42	59.12	41.82	52.10	49.91	45.77	78.13	34.08	60.10
1968	52.75	49.06	38.20	61.80	43.98	54.82	53.37	47.76	79.24	36.15	68.29
1969	54.35	50.89	39.56	63.44	46.10	57.98	56.54	51.20	83.51	39.15	70.31
1970	54.41	52.08	38.29	64.99	47.96	53.91	55.16	50.70	83.78	38.46	66.10
1971	56.21	54.02	42.11	66.16	49.72	60.08	59.34	50.63	82.41	38.76	84.23
1972	59.29	57.25	47.46	69.06	52.40	67.28	66.41	55.16	84.94	43.69	99.20
1973	62.72	60.02	52.37	71.33	54.76	75.33	72.43	63.19	91.86	51.77	98.56
1974	62.32	59.59	48.77	69.94	56.08	69.14	67.68	63.52	89.94	52.84	78.21
1975	62.04	60.90	48.74	70.99	58.03	56.50	60.12	56.88	80.53	47.32	63.06
1976	65.38	64.32	54.96	74.50	60.47	67.99	66.07	59.61	82.50	50.22	84.09
1977	68.44	67.06	60.06	76.44	63.01	78.71	75.78	66.65	86.52	58.05	101.89
1978	72.11	69.95	63.21	79.11	65.96	87.73	84.34	75.75	95.96	66.80	108.62
1979	74.16	71.57	62.90	80.92	68.06	89.79	88.78	83.05	108.01	72.21	104.65
1980	73.91	71.32	57.85	80.58	69.34	79.49	82.77	82.66	115.27	69.01	82.52
1981	75.60	72.19	58.51	81.27	70.39	86.78	84.32	87.07	124.37	71.56	75.92
1982	73.99	73.02	58.44	81.75	71.73	74.29	77.91	83.23	122.50	66.97	72.10
1983	76.93	76.79	67.01	84.16	75.08	81.23	83.51	81.82	109.79	70.08	87.62
1984	82.32	80.75	76.75	87.14	78.15	105.43	97.32	96.97	125.44	83.52	100.39
1985	85.25	84.52	84.21	89.15	82.06	104.23	102.02	101.90	134.63	88.10	101.75
1986	87.88	87.89	91.79	91.98	84.72	102.71	102.76	98.32	120.16	88.99	113.95
1987	90.47	90.58	93.13	93.75	88.27	103.93	102.05	97.22	115.77	89.24	114.22
1988	93.93	94.14	98.97	96.41	91.82	104.77	104.45	101.46	116.35	94.99	111.96
1989	97.08	96.32	101.57	98.61	93.90	109.24	106.20	105.55	118.91	99.73	107.84
1990	98.27	97.92	100.98	99.56	96.34	103.11	102.86	104.90	120.18	98.24	97.80
1991	97.36	97.30	94.56	98.57	97.16	93.39	94.62	98.18	107.32	94.20	85.76
1992	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1993	102.32	102.93	107.23	102.20	102.47	109.25	107.58	107.58	100.95	110.52	107.56
1994	105.87	106.31	114.87	105.15	105.23	123.44	116.86	116.22	101.94	122.66	118.39
1995	108.28	109.14	120.59	107.24	107.89	126.02	123.30	127.38	106.78	136.80	113.85
1996	112.02	112.62	128.16	109.77	111.09	137.15	134.10	139.21	112.16	151.75	122.32
1997	116.42	116.44	136.86	112.44	114.61	152.62	145.25	154.04	120.09	170.04	125.36
1993: I	101.34	101.55	103.18	101.19	101.49	106.96	104.00	103.57	99.32	105.43	105.08
II	101.85	102.44	106.29	101.97	101.93	107.05	106.08	106.67	100.66	109.32	104.67
III	102.39	103.48	108.47	102.64	102.93	108.63	107.79	107.96	101.50	110.80	107.38
IV	103.72	104.22	110.97	103.02	103.53	114.37	112.43	112.13	102.33	116.51	113.10
1994: I	104.49	105.21	112.72	104.28	104.21	118.91	113.32	112.25	98.31	118.51	115.84
II	105.70	105.98	113.77	104.81	105.06	124.96	116.56	114.94	103.13	120.22	120.37
III	106.17	106.60	114.99	105.40	105.58	123.00	117.78	117.08	102.86	123.49	119.44
IV	107.11	107.45	118.02	106.10	106.08	126.89	119.79	120.62	103.45	128.42	117.90
1995: I	107.58	107.95	117.74	106.70	106.68	128.22	122.17	125.19	106.11	133.87	115.21
II	107.66	108.86	119.44	107.11	107.69	124.24	122.26	127.30	107.43	136.34	110.63
III	108.57	109.57	121.86	107.31	108.34	124.42	123.28	127.58	107.31	136.81	113.33
IV	109.31	110.19	123.30	107.85	108.86	127.20	125.49	129.47	106.28	140.15	116.22
1996: I	110.21	111.19	125.06	108.45	109.92	130.22	129.10	133.50	107.94	145.36	118.84
II	111.84	112.48	128.86	109.73	110.75	135.72	133.20	137.02	109.87	149.54	124.24
III	112.42	113.00	128.24	110.05	111.57	141.46	136.21	141.64	112.24	155.38	123.71
IV	113.59	113.81	130.50	110.84	112.13	141.20	137.91	144.66	118.57	156.62	122.48
1997: I	114.77	115.02	134.34	111.81	112.98	146.32	139.90	147.14	119.71	159.77	123.41
II	115.89	115.47	133.82	111.75	113.87	153.24	143.85	152.04	117.81	168.20	125.26
III	117.08	117.23	139.12	113.16	115.19	153.82	147.98	158.13	121.29	175.62	125.14
IV	117.94	118.04	140.17	113.05	116.41	157.12	149.28	158.86	121.56	176.58	127.64
1998: I	119.54	119.79	145.39	115.09	117.42	167.22	156.36	167.04	120.06	190.08	132.34
II	120.09	121.58	149.30	116.57	118.98	165.29	161.36	172.15	119.36	198.43	137.05
III	121.17	122.80	150.18	117.19	120.56	168.46	162.23	171.84	119.42	197.91	140.31

See next page for continuation of table.

TABLE B–6.—*Chain-type quantity indexes for gross domestic product, 1959–98—Continued*

[Index numbers, 1992=100; quarterly data seasonally adjusted]

Year or quarter	Exports of goods and services			Imports of goods and services			Government consumption expenditures and gross investment				
								Federal			State and local
	Total	Goods	Services	Total	Goods	Services	Total	Total	National defense	Non-defense	
1959	11.24	11.50	9.78	15.94	13.06	28.14	48.54	68.29	81.85	38.65	34.90
1960	13.58	14.23	10.82	16.15	12.84	30.35	49.84	66.18	80.17	35.54	36.32
1961	13.80	14.30	11.54	16.05	12.83	29.23	51.21	68.76	83.51	36.44	38.57
1962	14.54	14.94	12.59	17.67	14.72	31.27	54.28	74.48	88.45	43.68	39.70
1963	15.64	16.11	13.39	18.34	15.32	31.16	55.54	74.21	86.22	47.89	42.09
1964	17.73	18.32	14.59	19.32	16.33	31.32	56.65	72.55	82.48	52.02	44.98
1965	18.08	18.41	16.17	21.27	18.64	31.92	58.36	72.96	80.84	55.56	48.00
1966	19.30	19.69	17.10	24.55	21.58	37.10	63.66	81.28	92.65	56.27	51.09
1967	19.72	19.79	18.60	26.34	22.72	41.44	68.49	89.34	104.71	55.66	53.58
1968	21.16	21.35	19.55	30.26	27.41	47.13	70.62	90.22	106.69	54.18	56.61
1969	22.31	22.47	20.70	31.99	28.91	49.06	70.22	87.11	101.56	55.41	58.17
1970	24.73	25.03	22.59	33.35	30.05	47.41	68.59	80.90	92.88	54.56	59.80
1971	24.90	24.94	23.60	35.13	32.57	46.06	67.34	75.19	83.49	56.70	61.75
1972	26.90	27.62	23.45	39.01	37.00	47.63	67.58	73.90	79.91	60.39	63.12
1973	32.78	33.96	27.58	40.76	39.61	45.79	67.14	70.29	74.82	60.11	65.03
1974	35.93	36.66	32.27	39.66	38.51	44.65	68.28	69.85	72.80	63.34	67.35
1975	35.59	35.81	34.40	35.19	32.65	42.32	69.34	69.68	71.78	65.13	69.32
1976	37.75	37.51	37.98	42.08	41.76	45.28	69.36	68.99	70.43	65.97	69.90
1977	38.69	38.06	40.46	46.59	46.28	47.02	70.01	70.09	70.89	68.55	70.18
1978	42.71	42.24	43.52	50.62	50.43	50.36	72.05	71.54	70.95	73.17	72.68
1979	46.77	47.23	43.99	51.47	51.30	51.08	73.18	72.59	72.13	74.04	73.87
1980	51.83	52.86	46.78	48.03	47.49	49.82	74.49	75.63	74.71	78.21	73.88
1981	52.43	52.32	51.66	49.28	48.46	52.68	74.99	78.77	78.77	79.09	72.41
1982	48.71	47.58	51.65	48.66	47.24	55.49	75.97	81.33	84.23	74.46	72.22
1983	47.44	46.20	50.76	54.81	53.66	59.97	78.13	85.74	89.05	77.85	72.69
1984	51.36	49.85	55.50	68.12	66.64	74.85	80.58	87.85	92.63	76.17	75.44
1985	52.76	51.65	55.65	72.53	70.84	80.37	85.47	93.87	99.55	80.02	79.47
1986	56.65	54.30	63.06	78.65	78.10	80.72	89.81	98.18	104.68	82.25	83.85
1987	62.87	60.26	69.94	83.44	81.72	91.14	92.26	101.21	108.89	82.32	85.87
1988	72.85	71.63	76.04	86.73	85.01	94.38	93.44	99.36	107.92	78.25	89.24
1989	81.36	80.61	83.20	90.13	88.58	96.88	96.06	100.67	106.86	85.45	92.78
1990	88.27	87.29	90.74	93.62	91.27	104.26	98.94	102.64	106.86	92.31	96.31
1991	93.82	93.43	94.77	93.01	91.23	100.37	99.55	102.16	105.79	93.28	97.68
1992	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1993	102.94	103.35	101.96	108.89	110.49	101.91	99.08	95.78	94.32	99.33	101.45
1994	111.41	113.62	106.38	122.13	125.56	107.31	99.09	92.17	89.66	98.24	104.06
1995	123.95	127.86	115.07	132.30	137.61	112.56	99.27	89.14	86.08	96.50	106.55
1996	134.50	140.28	121.50	145.19	151.36	118.65	100.35	88.19	84.93	96.03	109.09
1997	151.70	161.92	129.48	165.35	173.56	130.36	101.68	86.75	82.20	97.64	112.42
1993: I	101.22	101.22	101.21	104.93	106.20	99.34	98.92	97.00	95.58	100.46	100.30
II	103.24	103.70	102.15	108.03	109.72	100.63	99.16	96.19	94.92	99.29	101.29
III	101.07	100.74	101.81	109.04	110.70	101.79	98.95	94.58	93.42	98.76	101.81
IV	106.21	107.75	102.68	113.56	115.32	105.89	99.29	94.95	93.36	98.81	102.40
1994: I	105.73	106.79	103.28	115.65	117.72	106.61	98.27	92.28	89.19	99.77	102.57
II	110.12	111.72	106.46	120.79	123.81	107.69	98.38	91.13	89.40	95.36	103.59
III	112.93	115.54	106.99	124.56	128.48	107.58	100.35	94.02	92.33	98.13	104.89
IV	116.88	120.44	108.75	127.54	132.72	107.34	99.37	91.23	87.71	99.69	105.21
1995: I	119.47	123.12	111.19	130.57	134.75	112.46	99.40	90.65	87.36	98.54	105.69
II	121.05	125.05	111.99	132.85	137.79	111.52	99.70	90.20	87.39	96.98	106.51
III	126.10	129.81	117.63	130.51	138.40	112.38	99.51	89.60	86.19	97.77	106.62
IV	129.20	133.48	119.48	134.67	139.48	113.59	98.48	86.10	83.37	92.70	107.37
1996: I	130.37	135.72	118.27	138.88	144.07	116.44	99.27	87.78	84.82	94.91	107.51
II	132.23	137.67	121.21	143.35	149.31	117.66	100.98	89.51	86.50	96.77	109.22
III	132.52	139.60	118.10	147.99	154.40	120.42	100.58	88.45	85.11	96.46	109.30
IV	142.48	148.75	128.42	150.53	157.65	120.10	100.59	87.02	83.29	95.97	110.33
1997: I	145.35	154.09	126.20	157.10	164.59	125.12	101.10	86.43	81.15	99.01	111.65
II	150.70	160.28	129.77	163.72	172.05	128.32	101.63	87.20	82.94	97.39	112.01
III	154.53	165.07	131.64	169.00	177.43	131.11	101.99	86.92	82.56	97.36	112.82
IV	156.21	168.25	130.32	171.59	180.19	135.02	102.01	86.46	82.15	96.79	113.10
1998: I	155.12	166.82	129.91	177.95	187.38	138.03	101.53	84.50	79.06	93.83	113.77
II	152.03	161.87	130.46	181.37	192.49	137.82	102.45	86.30	79.93	100.48	114.28
III	150.56	162.10	126.93	183.02	193.37	137.60	102.84	85.71	80.78	97.47	115.16

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–7.—*Chain-type price indexes for gross domestic product, 1959–98*

[Index numbers, 1992=100, except as noted; quarterly data seasonally adjusted]

Year or quarter	Gross domestic product	Personal consumption expenditures				Gross private domestic investment					
							Fixed investment				
								Nonresidential			
		Total	Durable goods	Nondurable goods	Services	Total	Total	Total	Structures	Producers' durable equipment	Residential
1959	22.95	22.81	41.38	24.49	18.47	29.01	27.95	31.51	21.16	39.74	21.43
1960	23.27	23.19	41.18	24.84	18.96	29.13	28.08	31.61	21.13	39.99	21.58
1961	23.54	23.44	41.27	24.99	19.33	29.13	28.03	31.50	21.01	39.90	21.61
1962	23.84	23.69	41.47	25.18	19.62	29.11	28.03	31.48	21.18	39.66	21.65
1963	24.12	23.99	41.61	25.48	19.94	29.04	27.98	31.53	21.38	39.52	21.48
1964	24.48	24.31	41.62	25.80	20.28	29.21	28.15	31.69	21.68	39.50	21.65
1965	24.95	24.69	41.44	26.27	20.72	29.69	28.64	32.06	22.31	39.55	22.26
1966	25.66	25.34	41.25	27.14	21.32	30.29	29.25	32.55	23.11	39.67	23.07
1967	26.48	26.01	41.89	27.78	22.03	31.10	30.08	33.40	23.84	40.59	23.87
1968	27.64	27.04	43.28	28.85	22.97	32.30	31.31	34.59	25.03	41.70	25.14
1969	28.94	28.16	44.47	30.19	23.91	33.85	32.87	36.04	26.68	42.88	26.88
1970	30.48	29.49	45.44	31.66	25.20	35.27	34.28	37.76	28.42	44.48	27.74
1971	32.05	30.82	47.10	32.65	26.73	37.05	36.05	39.59	30.61	45.88	29.35
1972	33.42	31.90	47.60	33.74	27.91	38.69	37.64	41.00	32.83	46.51	31.14
1973	35.30	33.62	48.29	36.39	29.17	40.80	39.74	42.59	35.38	47.30	33.89
1974	38.46	37.03	51.35	41.59	31.41	44.91	43.69	46.75	40.24	50.85	37.39
1975	42.09	40.04	56.04	44.83	33.97	50.48	49.22	53.30	45.03	58.59	40.86
1976	44.55	42.32	59.16	46.53	36.50	53.33	52.12	56.33	47.22	62.19	43.49
1977	47.42	45.13	61.73	49.18	39.46	57.29	56.19	60.05	50.95	65.90	47.99
1978	50.86	48.41	65.23	52.59	42.62	62.10	61.09	64.38	56.30	69.59	53.72
1979	55.22	52.76	69.62	58.33	46.08	67.72	66.71	69.71	62.88	74.13	59.75
1980	60.34	58.49	75.56	65.30	50.96	74.18	73.03	75.96	68.66	80.67	66.22
1981	66.01	63.73	80.64	70.57	56.17	81.09	79.94	83.78	78.22	86.60	71.62
1982	70.18	67.40	83.81	72.81	60.80	85.38	84.47	88.28	84.45	90.24	75.45
1983	73.16	70.46	85.48	74.64	64.86	85.20	84.38	87.52	82.23	90.58	77.19
1984	75.92	73.14	86.71	76.71	68.17	85.87	85.01	87.48	82.94	90.04	79.41
1985	78.53	75.84	87.76	78.72	71.62	86.81	86.20	88.31	84.86	90.15	81.45
1986	80.58	78.00	88.91	78.73	75.28	88.97	88.56	90.22	86.47	92.24	84.87
1987	83.06	80.96	91.59	81.82	78.23	90.93	90.44	91.34	87.85	93.22	88.34
1988	86.10	84.32	93.28	84.83	82.16	93.46	93.25	93.73	92.10	94.59	92.06
1989	89.72	88.44	95.29	89.28	86.55	96.06	95.85	96.16	95.61	96.45	95.08
1990	93.64	92.91	96.59	94.62	91.22	98.37	98.24	98.42	98.78	98.23	97.80
1991	97.32	96.82	98.54	98.06	95.78	99.70	99.63	99.93	100.49	99.84	98.85
1992	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1993	102.64	102.66	101.22	101.46	103.62	101.50	101.53	100.65	103.26	99.57	103.71
1994	105.96	105.15	103.27	102.77	106.85	103.32	103.40	101.89	107.00	99.86	107.11
1995	107.51	107.56	103.72	103.96	110.37	104.74	104.81	102.40	111.41	99.00	110.90
1996	109.54	109.75	102.75	106.08	113.32	104.46	104.58	101.46	114.33	96.80	113.03
1997	111.57	111.81	100.66	107.69	116.61	104.10	104.45	100.15	118.22	93.88	115.96
1993:I	101.85	101.83	100.47	101.26	102.43	101.06	101.08	100.49	102.15	99.80	102.54
II	102.38	102.46	101.00	101.38	103.35	101.42	101.45	100.62	102.90	99.72	103.41
III	102.83	102.80	101.38	101.27	103.93	101.65	101.69	100.66	103.56	99.45	104.25
IV	103.52	103.57	102.03	101.92	104.79	101.85	101.91	100.80	104.42	99.32	104.64
1994:I	104.16	104.00	102.28	101.90	105.56	102.57	102.64	101.36	105.46	99.69	105.79
II	104.74	104.68	103.02	102.23	106.37	103.10	103.19	101.89	106.16	100.15	106.36
III	105.39	105.61	103.85	103.31	107.24	103.63	103.71	102.20	107.37	100.14	107.45
IV	106.07	106.31	103.94	103.64	108.27	103.96	104.04	102.12	109.00	99.46	108.83
1995:I	106.74	106.75	104.05	103.49	109.11	104.40	104.45	102.16	110.26	99.08	110.19
II	107.26	107.38	103.94	103.89	110.03	104.89	104.95	102.66	111.06	99.47	110.68
III	107.76	107.85	103.60	104.11	110.82	104.86	104.93	102.49	111.83	98.98	111.10
IV	108.30	108.28	103.30	104.34	111.52	104.82	104.92	102.28	112.49	98.49	111.64
1996:I	108.90	108.87	103.47	105.12	112.11	104.56	104.72	101.89	113.08	97.77	111.95
II	109.28	109.56	102.92	106.04	112.95	104.35	104.55	101.50	113.69	97.05	112.41
III	109.77	109.55	102.54	106.12	113.71	104.53	104.76	101.37	114.84	96.52	113.61
IV	110.21	110.62	102.06	107.05	114.51	104.39	104.70	101.09	115.72	95.88	114.14
1997:I	110.97	111.31	101.84	107.57	115.50	104.22	104.53	100.65	116.66	95.01	114.80
II	111.45	111.63	100.96	107.52	116.30	104.08	104.40	100.28	117.59	94.23	115.35
III	111.77	112.00	100.23	107.72	117.04	104.12	104.50	100.04	118.83	93.54	116.50
IV	112.09	112.30	99.67	107.95	117.59	103.99	104.37	99.64	119.79	92.75	117.20
1998:I	112.33	112.30	99.27	107.35	118.00	103.39	103.81	98.90	120.58	91.57	117.21
II	112.57	112.55	98.72	107.41	118.55	102.92	103.33	98.12	121.49	90.35	117.71
III	112.85	112.84	97.98	107.80	119.05	102.43	102.91	97.21	121.85	89.13	118.77

See next page for continuation of table.

TABLE B–7.—*Chain-type price indexes for gross domestic product, 1959–98*—Continued

[Index numbers, 1992=100, except as noted; quarterly data seasonally adjusted]

Year or quarter	Exports and imports of goods and services		Government consumption expenditures and gross investment					Final sales of domestic product	Gross domestic purchases[1]		Gross national product	Percent change[2]		
				Federal								Gross domestic product	Gross domestic purchases[1]	
	Exports	Imports	Total	Total	National defense	Non-defense	State and local		Total	Less food and energy			Total	Less food and energy
1959	28.74	20.94	18.10	18.61	18.10	19.51	17.45	22.79	22.44	.....	22.95	1.0	1.0	.....
1960	29.10	21.14	18.34	18.75	18.20	19.82	17.82	23.11	22.75	.....	23.27	1.4	1.4	.....
1961	29.51	21.14	18.66	19.01	18.38	20.48	18.24	23.38	23.00	.....	23.54	1.2	1.1	.....
1962	29.48	20.89	19.15	19.42	18.74	21.12	18.83	23.68	23.28	.....	23.85	1.3	1.2	.....
1963	29.44	21.30	19.61	19.90	19.19	21.67	19.25	23.97	23.58	.....	24.13	1.2	1.3	.....
1964	29.64	21.75	20.15	20.58	19.77	22.75	19.63	24.32	23.94	.....	24.49	1.5	1.6	.....
1965	30.61	22.05	20.73	21.19	20.41	23.22	20.17	24.80	24.39	.....	24.96	1.9	1.9	.....
1966	31.55	22.56	21.56	21.89	21.07	24.04	21.14	25.51	25.07	.....	25.68	2.8	2.8	.....
1967	32.80	22.65	22.47	22.55	21.72	24.72	22.35	26.34	25.83	.....	26.49	3.2	3.0	.....
1968	33.48	23.00	23.74	23.84	22.92	26.34	23.60	27.50	26.95	.....	27.65	4.4	4.3	.....
1969	34.54	23.60	25.19	25.13	24.18	27.65	25.23	28.80	28.21	.....	28.95	4.7	4.7	.....
1970	36.04	24.99	27.21	27.08	25.94	30.30	27.31	30.33	29.73	.....	30.49	5.3	5.4	.....
1971	37.27	26.53	29.33	29.42	28.24	32.71	29.23	31.91	31.32	.....	32.07	5.2	5.3	.....
1972	38.50	28.44	31.46	32.00	31.01	34.53	30.97	33.26	32.71	.....	33.43	4.2	4.5	.....
1973	43.78	33.44	33.88	34.51	33.66	36.54	33.32	35.15	34.64	.....	35.32	5.6	5.9	.....
1974	54.11	48.04	37.45	37.89	37.24	39.31	37.00	38.28	38.17	.....	38.48	8.9	10.2	.....
1975	59.72	52.13	41.36	41.95	41.10	43.84	40.80	41.90	41.72	.....	42.11	9.4	9.3	.....
1976	61.62	53.69	43.99	44.63	43.85	46.33	43.38	44.37	44.15	.....	44.58	5.8	5.8	.....
1977	64.17	58.54	47.11	48.18	47.21	50.34	46.19	47.25	47.18	.....	47.45	6.5	6.9	.....
1978	68.16	62.68	50.28	51.47	50.82	52.84	49.26	50.71	50.65	.....	50.91	7.3	7.4	.....
1979	76.48	73.39	54.82	56.10	55.81	56.58	53.73	55.06	55.22	.....	55.26	8.5	9.0	.....
1980	84.17	91.45	60.86	62.20	62.05	62.34	59.70	60.15	61.10	.....	60.37	9.3	10.7	.....
1981	90.31	96.39	66.84	68.31	68.23	68.26	65.57	65.82	66.72	.....	66.05	9.4	9.2	.....
1982	90.76	93.13	71.32	72.94	72.96	72.59	69.93	70.02	70.64	69.04	70.22	6.3	5.9	.....
1983	91.32	89.64	74.51	76.08	76.20	75.44	73.16	73.00	73.31	71.99	73.20	4.3	3.8	4.3
1984	92.30	88.90	78.23	80.36	81.23	77.53	76.40	75.77	75.90	74.65	75.97	3.8	3.5	3.7
1985	89.82	85.99	81.01	82.74	83.51	80.70	79.51	78.43	78.34	77.30	78.57	3.4	3.2	3.5
1986	88.54	85.95	82.69	83.96	84.49	82.16	81.59	80.51	80.40	80.10	80.62	2.6	2.6	3.6
1987	90.99	90.99	85.15	85.26	85.62	84.04	85.02	87.98	83.11	82.88	83.08	3.1	3.4	3.5
1988	96.00	95.35	87.39	87.18	87.30	86.75	87.52	86.06	86.13	86.09	86.12	3.7	3.6	3.9
1989	97.91	97.81	90.21	89.79	89.79	89.70	90.51	89.69	89.78	89.56	89.75	4.2	4.2	4.0
1990	98.74	100.37	94.06	92.92	92.92	92.84	94.91	93.62	93.83	93.35	93.66	4.4	4.5	4.2
1991	100.31	100.02	97.45	96.88	96.47	97.95	97.86	97.31	97.30	97.00	97.33	3.9	3.7	3.9
1992	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	2.8	2.8	3.1
1993	100.07	98.75	102.50	102.51	101.77	104.29	102.49	102.65	102.48	102.65	102.64	2.6	2.5	2.7
1994	101.24	99.39	104.85	104.84	103.63	107.70	104.85	105.11	104.85	105.16	105.08	2.4	2.3	2.4
1995	103.39	101.61	108.12	108.17	106.48	112.13	108.09	107.54	107.28	107.69	107.49	2.3	2.3	2.4
1996	101.60	99.36	110.80	111.35	109.98	114.57	110.48	109.59	109.18	109.35	109.51	1.9	1.8	1.5
1997	99.53	95.72	113.20	113.58	112.00	117.27	112.96	111.66	110.92	111.05	111.51	1.9	1.6	1.6
1993:I	99.97	98.82	101.71	101.79	101.23	103.15	101.65	101.85	101.71	101.82	101.84	3.9	3.2	3.5
II	100.22	99.45	102.24	101.94	101.39	103.27	102.44	102.38	102.28	102.43	102.37	2.1	2.3	2.4
III	100.04	98.55	102.77	102.83	101.97	104.89	102.74	102.84	102.64	102.88	102.83	1.8	1.4	1.8
IV	100.03	98.19	103.26	103.48	102.48	105.84	103.13	103.53	103.28	103.49	103.51	2.7	2.5	2.4
1994:I	100.44	97.64	103.95	104.04	102.90	106.73	103.90	104.17	103.80	104.10	104.16	2.5	2.0	2.4
II	100.99	98.87	104.61	104.97	103.65	108.06	104.39	104.75	104.46	104.86	104.73	2.2	2.6	3.0
III	101.40	100.34	105.07	104.83	103.68	107.57	105.21	105.41	105.24	105.50	105.38	2.5	3.0	2.5
IV	102.11	100.72	105.75	105.53	104.31	108.42	105.89	106.09	105.88	106.18	106.05	2.6	2.5	2.6
1995:I	103.13	101.09	107.00	107.02	105.42	110.78	106.98	106.75	106.47	106.83	106.72	2.5	2.2	2.5
II	103.93	102.79	107.76	107.39	105.97	110.74	107.98	107.28	107.11	107.49	107.24	2.0	2.4	2.5
III	103.52	101.78	108.34	108.07	106.69	111.33	108.50	107.78	107.52	107.95	107.73	1.9	1.6	1.7
IV	102.92	100.77	109.38	110.21	107.83	115.67	108.89	108.33	107.99	108.48	108.27	2.0	1.8	1.9
1996:I	102.62	100.32	110.53	111.36	109.59	115.46	110.05	108.94	108.56	108.92	108.87	2.2	2.1	1.7
II	102.19	99.94	110.21	110.76	109.52	113.73	109.89	109.33	108.94	109.08	109.24	1.4	1.4	.6
III	101.35	98.62	110.86	111.26	110.04	114.19	110.61	109.83	109.34	109.48	109.74	1.8	1.5	1.5
IV	100.26	98.55	111.61	112.00	110.79	114.92	111.37	110.28	109.90	109.92	110.17	1.6	2.1	1.6
1997:I	100.01	97.45	112.67	113.32	111.87	116.72	112.28	111.04	110.51	110.52	110.91	2.8	2.2	2.2
II	99.76	95.66	113.01	113.57	112.01	117.21	112.68	111.53	110.76	110.98	111.39	1.7	.9	1.7
III	99.36	95.16	113.24	113.52	111.90	117.32	113.07	111.87	111.06	111.23	111.72	1.2	1.1	.9
IV	98.97	94.62	113.87	113.91	112.23	117.83	113.83	112.19	111.34	111.49	112.04	1.1	1.0	1.0
1998:I	98.13	92.05	114.17	114.66	113.04	118.46	113.89	112.45	111.29	111.69	112.28	.9	–.2	.7
II	97.68	90.98	114.39	114.66	113.12	118.30	114.23	112.69	111.42	111.88	112.51	.9	.4	.7
III	96.98	89.87	114.82	114.77	113.22	118.44	114.83	112.99	111.60	112.09	112.79	1.0	.7	.7

[1] Gross domestic product (GDP) less exports of goods and services plus imports of goods and services.
[2] Percent changes based on unrounded data. Quarterly percent changes are at annual rates.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–8.—*Gross domestic product by major type of product, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product	Final sales of domestic product	Change in business inventories	Goods								Services	Structures
				Total			Durable goods		Nondurable goods				
				Total	Final sales	Change in business inventories	Final sales	Change in business inventories	Final sales	Change in business inventories			
1959	507.2	503.0	4.2	252.0	247.8	4.2	92.3	3.1	155.5	1.1		192.7	62.5
1960	526.6	523.3	3.2	257.8	254.6	3.2	95.1	1.7	159.5	1.6		206.8	61.9
1961	544.8	541.9	2.9	260.4	257.5	2.9	94.3	–.1	163.2	3.0		220.8	63.6
1962	585.2	579.1	6.1	281.2	275.1	6.1	104.5	3.4	170.7	2.7		236.1	67.8
1963	617.4	611.7	5.7	292.7	287.1	5.7	111.0	2.7	176.1	3.0		252.0	72.7
1964	663.0	658.0	5.0	313.2	308.1	5.0	120.5	4.0	187.6	1.0		271.4	78.4
1965	719.1	709.4	9.7	342.9	333.3	9.7	133.3	6.7	199.9	3.0		291.5	84.7
1966	787.8	774.0	13.8	380.6	366.8	13.8	149.0	10.2	217.8	3.6		319.2	88.0
1967	833.6	823.1	10.5	394.5	384.0	10.5	153.8	5.5	230.2	5.0		349.5	89.6
1968	910.6	901.4	9.1	426.7	417.6	9.1	167.8	4.6	249.8	4.5		383.9	100.0
1969	982.2	972.7	9.5	455.8	446.2	9.5	178.6	6.3	267.6	3.2		418.2	108.3
1970	1,035.6	1,033.4	2.2	467.5	465.3	2.2	180.2	.0	285.1	2.2		458.5	109.7
1971	1,125.4	1,116.9	8.5	493.2	484.7	8.5	187.0	3.2	297.7	5.3		503.8	128.4
1972	1,237.3	1,227.4	9.9	539.8	529.9	9.9	209.3	7.2	320.6	2.7		550.5	146.9
1973	1,382.6	1,365.2	17.5	619.2	601.8	17.5	241.4	14.6	360.3	2.9		600.5	162.9
1974	1,496.9	1,482.8	14.1	665.7	651.6	14.1	256.7	11.0	394.9	3.1		665.6	165.6
1975	1,630.6	1,636.9	–6.3	718.1	724.5	–6.3	288.1	–7.5	436.4	1.2		745.8	166.7
1976	1,819.0	1,802.0	16.9	804.0	787.1	16.9	322.5	10.6	464.6	6.3		823.8	191.7
1977	2,026.9	2,003.9	23.1	883.7	860.6	23.1	366.9	10.2	493.7	12.8		916.4	226.8
1978	2,291.4	2,264.2	27.2	996.5	969.3	27.2	416.9	20.3	552.5	6.9		1,023.1	271.8
1979	2,557.5	2,540.6	16.9	1,115.2	1,098.3	16.9	475.0	12.5	623.3	4.3		1,131.7	310.6
1980	2,784.2	2,791.9	–7.6	1,191.1	1,198.7	–7.6	502.9	–2.7	695.8	–4.9		1,274.1	319.1
1981	3,115.9	3,087.8	28.2	1,342.6	1,314.5	28.2	546.0	7.5	768.4	20.6		1,423.3	350.0
1982	3,242.1	3,256.6	–14.5	1,333.2	1,347.7	–14.5	544.4	–15.5	803.3	1.0		1,566.9	342.0
1983	3,514.5	3,519.4	–4.9	1,426.9	1,431.8	–4.9	586.1	4.0	845.7	–8.9		1,720.9	366.8
1984	3,902.4	3,835.0	67.5	1,607.0	1,539.6	67.5	655.1	43.6	884.5	23.9		1,871.8	423.6
1985	4,180.7	4,154.5	26.2	1,669.8	1,643.6	26.2	713.2	8.6	930.4	17.6		2,054.6	456.3
1986	4,422.2	4,412.6	9.6	1,720.6	1,711.0	9.6	741.3	.6	969.7	9.0		2,224.2	477.4
1987	4,692.3	4,668.1	24.2	1,804.8	1,780.6	24.2	764.7	21.5	1,015.9	2.8		2,398.2	489.3
1988	5,049.6	5,038.7	10.9	1,942.9	1,932.0	10.9	837.0	16.4	1,095.0	–5.5		2,600.0	506.7
1989	5,438.7	5,407.0	31.7	2,124.0	2,092.3	31.7	907.3	21.3	1,155.0	10.5		2,795.3	519.4
1990	5,743.8	5,735.8	8.0	2,203.8	2,195.8	8.0	935.7	2.5	1,260.1	5.6		3,016.9	523.1
1991	5,916.7	5,919.0	–2.3	2,234.0	2,236.3	–2.3	926.6	–16.6	1,309.7	14.3		3,201.3	481.4
1992	6,244.4	6,237.4	7.0	2,321.0	2,314.0	7.0	965.9	–10.9	1,348.1	17.9		3,411.1	512.3
1993	6,558.1	6,537.5	20.5	2,422.1	2,401.6	20.5	1,012.7	16.1	1,388.9	4.4		3,589.5	546.5
1994	6,947.0	6,885.7	61.2	2,581.4	2,520.2	61.2	1,072.5	33.6	1,447.6	27.7		3,772.3	593.2
1995	7,269.6	7,238.9	30.7	2,675.6	2,644.9	30.7	1,143.4	32.4	1,501.5	–1.6		3,974.9	619.1
1996	7,661.6	7,629.5	32.1	2,812.4	2,780.3	32.1	1,228.7	20.8	1,551.6	11.4		4,179.5	669.7
1997	8,110.9	8,043.5	67.4	2,978.5	2,911.1	67.4	1,310.1	33.6	1,601.0	33.8		4,414.1	718.3
1993: I	6,444.5	6,413.8	30.7	2,388.3	2,357.5	30.7	980.8	20.6	1,376.7	10.1		3,527.4	528.8
II	6,509.1	6,494.7	14.5	2,408.7	2,394.2	14.5	1,014.9	7.0	1,379.3	7.4		3,561.8	538.6
III	6,574.6	6,560.6	14.0	2,412.0	2,398.0	14.0	1,009.4	14.2	1,388.6	–.2		3,612.4	550.2
IV	6,704.2	6,681.3	22.9	2,479.6	2,456.7	22.9	1,045.9	22.5	1,410.8	.4		3,656.1	568.5
1994: I	6,794.3	6,741.9	52.4	2,531.2	2,478.8	52.4	1,052.3	29.0	1,426.5	23.4		3,695.1	568.0
II	6,911.4	6,835.1	76.3	2,568.6	2,492.4	76.3	1,062.1	40.5	1,430.2	35.8		3,749.6	593.1
III	6,986.5	6,936.3	50.2	2,582.8	2,532.6	50.2	1,082.3	29.3	1,450.3	20.9		3,800.8	602.9
IV	7,095.7	7,029.6	66.2	2,643.0	2,576.9	66.2	1,092.4	35.6	1,483.5	30.6		3,843.9	608.8
1995: I	7,170.8	7,111.8	59.0	2,662.2	2,603.2	59.0	1,116.4	47.5	1,486.8	11.5		3,893.5	615.1
II	7,210.9	7,185.6	25.3	2,643.7	2,618.4	25.3	1,126.5	27.7	1,491.8	–2.4		3,955.6	611.7
III	7,304.8	7,287.7	17.1	2,678.1	2,661.0	17.1	1,155.8	25.1	1,505.2	–8.0		4,006.7	620.0
IV	7,391.9	7,370.4	21.5	2,718.4	2,696.9	21.5	1,174.8	29.2	1,522.2	–7.7		4,043.8	629.7
1996: I	7,495.3	7,479.1	16.3	2,754.9	2,738.6	16.3	1,201.5	14.6	1,537.1	1.7		4,096.7	643.7
II	7,629.2	7,600.6	28.5	2,804.5	2,775.9	28.5	1,225.1	18.4	1,550.9	10.1		4,157.3	667.4
III	7,703.4	7,653.6	49.8	2,832.3	2,782.5	49.8	1,232.8	42.7	1,549.7	7.1		4,196.1	675.0
IV	7,818.4	7,784.6	33.8	2,858.1	2,824.3	33.8	1,255.7	7.3	1,568.6	26.5		4,267.7	692.6
1997: I	7,955.0	7,895.2	59.7	2,927.7	2,868.0	59.7	1,275.5	31.8	1,592.4	27.9		4,320.2	707.1
II	8,063.4	7,979.9	83.5	2,967.0	2,883.6	83.5	1,293.6	48.8	1,589.9	34.6		4,386.9	709.4
III	8,170.8	8,116.2	54.6	2,998.9	2,944.3	54.6	1,337.1	19.9	1,607.2	34.7		4,448.0	723.9
IV	8,254.5	8,182.6	71.9	3,020.5	2,943.7	71.9	1,334.3	34.0	1,614.4	37.9		4,501.2	723.7
1998: I	8,384.2	8,288.7	95.5	3,101.3	3,005.8	95.5	1,376.9	49.9	1,628.8	45.6		4,538.4	744.6
II	8,440.6	8,401.3	39.2	3,064.5	3,025.3	39.2	1,380.8	4.5	1,644.4	34.7		4,619.5	756.6
III	8,537.9	8,480.9	57.0	3,085.9	3,029.0	57.0	1,373.0	19.5	1,655.9	37.5		4,678.5	773.5

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–9.—*Real gross domestic product by major type of product, 1959–98*

[Billions of chained (1992) dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product	Final sales of domestic product	Change in business inventories	Goods							Services	Structures
				Total			Durable goods		Nondurable goods			
				Total	Final sales	Change in business inventories	Final sales	Change in business inventories	Final sales	Change in business inventories		
1959	2,210.2	2,206.9	13.2	785.2							1,115.3	299.4
1960	2,262.9	2,264.2	10.5	796.8							1,167.1	296.5
1961	2,314.3	2,318.6	8.6	799.4							1,219.9	304.7
1962	2,454.8	2,445.4	19.5	857.8							1,277.5	322.2
1963	2,559.4	2,552.4	17.8	886.4							1,336.9	343.9
1964	2,708.4	2,705.1	15.6	940.9							1,406.3	367.0
1965	2,881.1	2,860.4	30.3	1,017.8							1,472.5	385.4
1966	3,069.2	3,033.5	42.4	1,106.9							1,557.8	385.9
1967	3,147.2	3,125.1	32.0	1,120.2							1,639.4	380.2
1968	3,293.9	3,278.0	26.9	1,170.8							1,712.0	403.6
1969	3,393.6	3,377.2	27.0	1,204.7							1,774.1	408.8
1970	3,397.6	3,406.5	5.4	1,188.8							1,824.0	391.1
1971	3,510.0	3,499.8	22.3	1,216.8							1,875.8	427.4
1972	3,702.3	3,688.5	24.7	1,305.9							1,936.1	459.0
1973	3,916.3	3,883.9	37.7	1,424.5							2,004.4	469.0
1974	3,891.7	3,873.4	22.4	1,403.1							2,063.3	420.5
1975	3,873.9	3,906.4	–10.2	1,380.2							2,123.5	382.3
1976	4,087.9	4,061.7	29.8	1,479.5							2,182.9	418.3
1977	4,273.6	4,240.8	38.8	1,555.1							2,250.5	458.7
1978	4,503.0	4,464.4	43.3	1,652.0							2,334.3	498.1
1979	4,630.6	4,614.4	23.4	1,706.0							2,391.3	511.7
1980	4,615.0	4,641.9	–10.2	1,689.7							2,441.4	475.9
1981	4,720.7	4,691.6	33.1	1,761.8							2,475.8	468.8
1982	4,620.3	4,651.2	–15.6	1,681.0	1,706.7	–15.6	604.4	–17.8	1,122.6	2.0	2,518.7	428.5
1983	4,803.7	4,821.2	–5.7	1,748.9	1,762.6	–5.7	637.6	4.9	1,142.6	–10.3	2,598.4	460.7
1984	5,140.1	5,061.6	75.3	1,926.4	1,853.3	75.3	703.1	49.7	1,160.9	26.1	2,678.0	523.1
1985	5,323.5	5,296.9	30.2	1,966.1	1,940.6	30.2	758.2	10.0	1,189.0	20.1	2,797.8	550.3
1986	5,487.7	5,480.9	11.1	2,018.8	2,011.7	11.1	793.6	.9	1,223.5	10.3	2,903.2	558.4
1987	5,649.5	5,626.0	26.4	2,077.9	2,056.0	26.4	819.8	23.5	1,239.2	2.4	3,011.6	554.6
1988	5,865.2	5,855.1	11.7	2,181.0	2,171.0	11.7	897.0	17.6	1,274.8	–6.1	3,128.6	550.8
1989	6,062.0	6,028.7	33.3	2,301.8	2,269.2	33.3	951.9	22.4	1,317.2	11.0	3,208.5	546.0
1990	6,136.3	6,126.7	10.4	2,304.8	2,295.4	10.4	963.9	2.7	1,331.3	7.6	3,295.4	533.3
1991	6,079.4	6,082.6	–3.0	2,262.7	2,265.9	–3.0	934.2	–16.6	1,331.8	13.4	3,332.3	484.5
1992	6,244.4	6,237.4	7.0	2,321.0	2,314.0	.0	965.9	–10.9	1,348.1	17.9	3,411.1	512.3
1993	6,389.6	6,368.9	22.1	2,391.5	2,370.7	22.1	1,007.0	15.8	1,363.8	6.2	3,469.5	528.7
1994	6,610.7	6,551.2	60.6	2,514.2	2,453.9	60.6	1,056.7	32.3	1,397.5	28.2	3,542.9	554.9
1995	6,761.7	6,731.7	27.7	2,591.0	2,561.1	27.7	1,135.6	30.4	1,426.8	–3.0	3,615.7	557.3
1996	6,994.8	6,961.6	30.0	2,708.8	2,675.6	30.0	1,227.7	19.5	1,451.5	10.5	3,701.7	588.5
1997	7,269.8	7,203.7	63.2	2,867.9	2,799.7	63.2	1,331.9	31.6	1,475.1	31.5	3,798.7	612.5
1993:I	6,327.9	6,297.3	32.3	2,363.6	2,332.9	32.3	977.3	20.7	1,355.6	11.6	3,447.0	517.5
II	6,359.9	6,344.9	16.6	2,383.2	2,368.1	16.6	1,009.0	7.0	1,359.2	9.7	3,454.1	522.8
III	6,393.5	6,379.3	15.3	2,382.7	2,368.6	15.3	1,003.4	13.8	1,365.2	1.4	3,480.4	530.3
IV	6,476.9	6,453.8	24.2	2,436.5	2,413.2	24.2	1,038.2	21.9	1,375.3	2.1	3,496.4	544.5
1994:I	6,524.5	6,473.0	53.1	2,476.7	2,424.5	53.1	1,040.4	28.0	1,384.3	25.0	3,510.4	538.6
II	6,600.3	6,526.7	75.9	2,508.6	2,433.8	75.9	1,044.7	39.1	1,389.3	36.8	3,533.9	559.0
III	6,629.5	6,580.4	49.7	2,508.4	2,458.9	49.7	1,062.1	28.2	1,397.2	21.4	3,559.7	562.1
IV	6,688.6	6,624.8	63.6	2,563.1	2,498.4	63.6	1,079.4	33.8	1,419.3	29.7	3,567.7	560.1
1995:I	6,717.5	6,661.8	54.3	2,580.7	2,524.3	54.3	1,103.5	44.6	1,421.5	9.4	3,580.4	558.7
II	6,724.2	6,700.0	21.7	2,561.4	2,537.5	21.7	1,117.7	26.0	1,420.7	–4.6	3,611.9	552.2
III	6,779.5	6,761.7	14.7	2,592.1	2,574.9	14.7	1,151.4	23.5	1,425.2	–9.1	3,633.0	556.4
IV	6,875.8	6,803.3	20.1	2,629.8	2,607.7	20.1	1,169.9	27.6	1,439.8	–7.8	3,637.5	561.8
1996:I	6,882.0	6,863.6	14.4	2,653.7	2,636.1	14.4	1,193.4	13.7	1,445.3	.7	3,660.1	571.6
II	6,983.9	6,954.7	26.1	2,699.7	2,670.8	26.1	1,225.7	17.3	1,448.5	8.8	3,698.1	589.8
III	7,020.0	6,970.3	47.5	2,728.2	2,677.5	47.5	1,233.9	40.1	1,447.3	7.5	3,706.3	590.6
IV	7,093.1	7,057.9	32.1	2,753.5	2,718.2	32.1	1,257.6	7.0	1,464.8	25.1	3,742.2	602.2
1997:I	7,166.7	7,108.1	56.3	2,811.6	2,751.4	56.3	1,279.2	29.8	1,476.9	26.4	3,752.3	610.3
II	7,236.5	7,155.5	79.0	2,852.6	2,768.7	79.0	1,311.2	45.8	1,463.9	33.2	3,784.9	607.9
III	7,311.2	7,256.3	51.0	2,890.2	2,834.0	51.0	1,365.8	18.7	1,477.1	32.3	3,816.4	614.6
IV	7,364.6	7,294.8	66.5	2,917.0	2,844.8	66.5	1,371.4	32.2	1,482.4	34.2	3,841.1	617.2
1998:I	7,464.7	7,372.5	91.4	3,000.8	2,904.3	91.4	1,420.4	47.3	1,495.2	44.1	3,854.8	625.2
II	7,498.6	7,456.4	38.2	2,969.7	2,927.7	38.2	1,434.1	4.2	1,505.4	34.1	3,907.3	632.1
III	7,566.5	7,507.6	55.7	2,955.0	2,934.8	55.7	1,438.2	18.5	1,508.3	37.4	3,940.1	641.7

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–10.—*Gross domestic product by sector, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product	Business [1]					Households and institutions			General government [2]		
		Total	Nonfarm [1]			Farm	Total	Private households	Nonprofit institutions	Total	Federal	State and local
			Total [1]	Nonfarm less housing	Housing							
1959	507.2	436.9	418.0	382.4	35.6	18.9	12.4	3.6	8.9	57.9	31.8	26.1
1960	526.6	451.1	431.3	392.7	38.6	19.8	13.9	3.8	10.1	61.5	32.9	28.6
1961	544.8	464.9	444.8	403.4	41.4	20.1	14.5	3.7	10.7	65.5	34.2	31.3
1962	585.2	499.5	479.3	434.7	44.6	20.2	15.6	3.8	11.8	70.1	36.3	33.8
1963	617.4	525.9	505.5	458.1	47.4	20.4	16.7	3.8	12.8	74.8	38.1	36.7
1964	663.0	564.7	545.5	495.3	50.2	19.3	17.9	3.9	14.0	80.4	40.5	40.0
1965	719.1	613.8	591.9	538.4	53.5	21.9	19.3	4.0	15.3	86.0	42.3	43.7
1966	787.8	670.4	647.5	590.6	57.0	22.9	21.3	4.0	17.2	95.1	47.1	49.0
1967	833.6	703.7	681.5	620.6	60.8	22.2	23.4	4.2	19.2	106.5	51.6	54.9
1968	910.6	766.1	743.4	678.6	64.8	22.7	26.1	4.4	21.7	118.4	56.5	61.9
1969	982.2	823.3	798.1	728.2	69.9	25.2	29.5	4.4	25.0	129.5	60.2	69.3
1970	1,035.6	860.3	834.1	759.2	74.9	26.2	32.4	4.5	27.9	142.9	64.3	78.7
1971	1,125.4	933.9	905.8	824.1	81.7	28.1	35.6	4.6	31.1	155.9	68.2	87.7
1972	1,237.3	1,028.3	995.6	906.9	88.7	32.6	39.0	4.6	34.3	170.1	73.1	96.9
1973	1,382.6	1,154.6	1,104.9	1,007.9	96.9	49.8	43.0	4.8	38.2	185.0	76.9	108.1
1974	1,496.9	1,246.0	1,198.6	1,092.8	105.9	47.4	47.2	4.6	42.6	203.7	83.5	120.3
1975	1,630.6	1,351.5	1,302.7	1,188.4	114.3	48.8	52.0	4.6	47.4	227.1	91.7	135.4
1976	1,819.0	1,516.0	1,469.6	1,344.6	125.0	46.4	57.1	5.4	51.7	245.8	97.9	147.9
1977	2,026.9	1,697.5	1,650.3	1,510.9	139.4	47.2	62.4	5.9	56.5	266.9	106.1	160.9
1978	2,291.4	1,931.9	1,877.1	1,721.3	155.8	54.7	69.8	6.5	63.2	293.7	113.8	175.9
1979	2,557.5	2,164.1	2,099.7	1,923.6	176.1	64.5	77.3	6.4	71.0	316.0	122.3	193.7
1980	2,784.2	2,346.3	2,290.2	2,085.0	205.1	56.1	87.1	6.1	81.0	350.8	135.6	215.2
1981	3,115.9	2,631.8	2,561.9	2,326.6	235.3	69.9	97.6	6.2	91.5	386.4	151.0	235.4
1982	3,242.1	2,714.7	2,649.5	2,390.0	259.5	65.1	108.2	6.3	102.0	419.2	164.0	255.2
1983	3,514.5	2,950.0	2,900.8	2,624.1	276.7	49.2	119.2	6.3	112.9	445.3	173.5	271.8
1984	3,902.4	3,289.6	3,221.1	2,918.6	302.5	68.5	131.2	7.3	123.9	481.7	190.8	290.9
1985	4,180.7	3,520.2	3,453.1	3,121.1	332.0	67.1	140.9	7.3	133.6	519.6	203.6	316.0
1986	4,422.2	3,716.7	3,653.7	3,295.2	358.5	63.0	153.7	7.7	145.9	551.9	211.1	340.7
1987	4,692.3	3,933.1	3,868.0	3,481.6	386.4	65.1	173.3	7.7	165.6	586.0	221.3	364.7
1988	5,049.6	4,233.4	4,169.6	3,750.4	419.2	63.8	195.1	8.3	186.8	621.0	230.0	391.0
1989	5,438.7	4,563.7	4,487.5	4,036.1	451.4	76.2	214.6	8.9	205.7	660.3	240.5	419.8
1990	5,743.8	4,796.9	4,717.3	4,234.1	483.2	79.6	237.9	9.4	228.5	709.0	252.7	456.3
1991	5,916.7	4,908.5	4,835.6	4,325.7	509.9	72.9	257.4	9.1	248.3	750.7	268.1	482.6
1992	6,244.4	5,184.4	5,103.8	4,560.6	543.2	80.6	279.1	10.1	269.0	781.0	274.4	506.6
1993	6,558.1	5,453.1	5,380.1	4,822.9	557.1	73.0	296.5	10.7	285.8	808.5	276.9	531.6
1994	6,947.0	5,801.6	5,718.1	5,123.6	594.4	83.5	312.7	11.0	301.7	832.7	275.2	557.5
1995	7,269.6	6,080.6	6,008.3	5,378.8	629.6	72.3	331.4	11.8	319.5	857.6	275.4	582.2
1996	7,661.6	6,432.9	6,341.3	5,679.2	662.1	91.6	345.0	11.9	333.1	883.6	279.2	604.4
1997	8,110.9	6,836.5	6,746.3	6,047.2	699.1	90.2	361.4	12.0	349.4	912.9	281.3	631.7
1993:I	6,444.5	5,353.0	5,282.0	4,725.6	556.5	71.0	290.1	10.5	279.6	801.4	278.9	522.5
II	6,509.1	5,409.6	5,333.4	4,778.7	554.7	76.2	294.5	10.6	283.9	805.0	276.2	528.9
III	6,574.6	5,463.7	5,398.6	4,841.5	557.1	65.1	298.9	10.7	288.2	811.0	277.2	534.8
IV	6,704.2	5,586.1	5,506.2	4,945.9	560.3	79.9	302.4	10.8	291.6	815.7	275.3	540.4
1994:I	6,794.3	5,663.0	5,572.3	4,984.5	587.8	90.7	305.9	10.8	295.1	825.4	277.5	547.8
II	6,911.4	5,769.9	5,684.9	5,101.6	583.3	85.0	309.6	10.9	298.7	831.8	277.7	554.1
III	6,986.5	5,837.0	5,756.2	5,158.0	598.2	80.8	314.9	11.1	303.8	834.7	273.6	561.1
IV	7,095.7	5,936.3	5,858.8	5,250.4	608.4	77.5	320.5	11.3	309.2	838.9	272.0	566.9
1995:I	7,170.8	5,994.7	5,923.0	5,304.0	619.0	71.7	325.4	11.6	313.8	850.7	276.3	574.4
II	7,210.9	6,025.7	5,955.8	5,329.2	626.7	69.9	329.9	11.8	318.2	855.2	275.1	580.1
III	7,304.8	6,111.6	6,042.4	5,413.8	628.6	69.3	333.2	11.9	321.3	860.0	275.8	584.2
IV	7,391.9	6,190.4	6,112.1	5,468.2	644.0	78.2	337.0	12.0	325.0	864.5	274.6	590.0
1996:I	7,495.3	6,281.3	6,195.0	5,547.7	647.2	86.3	339.6	11.9	327.7	874.5	279.2	595.3
II	7,629.2	6,404.7	6,311.0	5,655.2	655.9	93.7	343.0	11.9	331.1	881.5	279.9	601.6
III	7,703.4	6,470.0	6,373.6	5,706.3	667.3	96.3	346.5	12.0	334.6	886.9	279.6	607.3
IV	7,818.4	6,575.7	6,485.5	5,807.7	677.8	90.2	351.0	12.0	339.1	891.7	278.3	613.4
1997:I	7,955.0	6,695.4	6,605.0	5,917.0	688.0	90.4	355.4	12.0	343.4	904.2	282.9	621.3
II	8,063.4	6,792.9	6,700.6	6,004.4	696.2	92.2	359.8	12.0	347.8	910.7	282.4	628.3
III	8,170.8	6,890.9	6,799.7	6,096.8	702.9	91.2	363.5	12.0	351.5	916.3	281.0	635.3
IV	8,254.5	6,967.0	6,880.0	6,170.6	709.4	87.0	366.9	12.0	354.9	920.5	278.8	641.7
1998:I	8,384.2	7,083.1	6,999.3	6,285.4	713.9	83.8	371.1	11.8	359.2	930.1	282.1	648.0
II	8,440.6	7,126.3	7,041.4	6,315.0	726.4	84.9	377.9	12.0	365.9	936.3	281.2	655.2
III	8,537.9	7,209.5	7,126.3	6,387.1	739.2	83.2	383.9	12.2	371.7	944.5	281.8	662.6

[1] Gross domestic business product equals gross domestic product less gross product of households and institutions and of general government. Nonfarm product equals gross domestic business product less gross farm product.

[2] Equals compensation of general government employees plus general government consumption of fixed capital.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–11.—*Real gross domestic product by sector, 1959–98*

[Billions of chained (1992) dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product	Business[1]					Households and institutions			General government[2]		
		Total	Nonfarm[1]			Farm	Total	Private households	Nonprofit institutions	Total	Federal	State and local
			Total[1]	Nonfarm less housing	Housing							
1959	2,210.2	1,721.7	1,677.4	1,524.7	149.8	33.7	105.0	18.5	78.6	415.1	232.1	186.4
1960	2,262.9	1,758.2	1,710.8	1,548.3	160.0	35.3	112.1	18.6	85.9	429.3	236.4	196.2
1961	2,314.3	1,765.8	1,748.5	1,576.8	169.4	35.6	113.1	18.1	87.8	444.6	241.5	206.4
1962	2,454.8	1,911.7	1,868.0	1,685.1	180.4	34.9	117.2	17.9	92.3	461.8	251.7	213.6
1963	2,559.4	1,997.7	1,953.4	1,760.9	189.9	35.9	120.1	17.7	95.6	475.7	254.3	224.6
1964	2,708.4	2,122.6	2,083.2	1,881.4	198.9	34.6	123.4	17.5	99.4	492.4	256.8	238.4
1965	2,881.1	2,268.8	2,227.7	2,014.4	210.0	36.5	127.9	16.9	105.0	509.3	258.8	253.0
1966	3,069.2	2,419.3	2,383.8	2,155.8	220.3	35.4	132.6	16.3	110.9	542.1	276.4	268.4
1967	3,147.2	2,470.5	2,430.5	2,195.9	231.2	37.7	136.9	16.3	115.2	571.1	295.1	279.2
1968	3,293.9	2,590.4	2,555.0	2,310.9	240.3	36.5	141.0	15.5	120.6	592.6	300.6	294.8
1969	3,393.6	2,670.8	2,634.6	2,380.0	251.1	37.5	145.5	14.7	126.5	607.3	301.7	307.8
1970	3,397.6	2,673.9	2,635.1	2,373.6	258.7	38.7	144.0	13.8	126.4	609.7	288.9	321.5
1971	3,510.0	2,777.3	2,736.5	2,464.3	269.3	40.4	147.2	13.1	130.6	611.3	276.1	334.9
1972	3,702.3	2,958.2	2,920.6	2,634.3	282.7	40.4	151.4	12.7	135.4	611.5	263.5	347.4
1973	3,916.3	3,119.1	3,127.5	2,827.3	295.9	40.3	154.9	12.4	139.6	614.8	253.8	360.2
1974	3,891.2	3,105.4	3,095.6	2,781.6	311.7	39.3	156.1	10.7	143.2	625.2	252.0	372.6
1975	3,873.9	3,100.1	3,050.3	2,733.9	315.4	46.4	161.2	10.1	149.2	631.1	249.0	381.7
1976	4,082.9	3,298.2	3,256.4	2,929.7	323.4	44.7	163.0	10.4	150.6	634.3	247.5	386.4
1977	4,273.6	3,475.8	3,431.8	3,093.7	333.6	47.0	167.5	10.5	155.0	639.1	246.3	392.6
1978	4,503.0	3,697.8	3,652.2	3,295.2	351.7	44.9	170.3	10.8	157.5	649.2	247.3	401.8
1979	4,630.6	3,804.8	3,763.2	3,388.4	370.7	48.3	173.7	9.4	163.1	654.2	245.1	409.3
1980	4,615.0	3,779.9	3,741.4	3,346.2	395.6	46.7	178.7	8.3	169.8	660.9	246.7	414.5
1981	4,720.7	3,878.4	3,816.7	3,406.8	411.6	60.0	182.7	7.8	174.7	662.3	248.3	414.2
1982	4,620.3	3,772.7	3,705.9	3,291.9	418.7	62.6	188.0	7.6	180.4	666.6	250.3	416.4
1983	4,803.7	3,946.5	3,916.3	3,497.0	421.3	40.2	192.3	7.6	184.8	668.7	254.2	414.4
1984	5,140.1	4,246.0	4,211.8	3,774.7	437.5	56.7	197.1	8.7	188.2	676.0	258.2	417.6
1985	5,323.5	4,415.4	4,357.8	3,906.2	451.9	66.9	203.4	8.7	194.6	693.2	263.9	429.2
1986	5,487.7	4,563.0	4,499.0	4,039.3	459.7	64.2	213.5	9.0	204.3	709.9	266.9	443.0
1987	5,649.5	4,699.8	4,635.1	4,161.0	473.5	65.3	224.1	8.9	215.2	724.2	272.3	452.0
1988	5,865.2	4,882.2	4,826.9	4,335.8	491.0	58.2	240.6	9.5	231.0	741.3	274.1	467.3
1989	6,062.0	5,049.4	4,984.9	4,477.9	506.8	65.9	253.4	10.1	243.3	758.1	276.2	481.9
1990	6,136.3	5,117.0	5,026.5	4,510.5	515.9	70.8	264.1	10.2	253.8	774.7	280.3	494.5
1991	6,079.4	5,076.4	4,954.9	4,428.1	526.8	71.6	272.1	9.4	262.6	781.1	281.0	500.1
1992	6,244.4	5,184.4	5,103.8	4,560.6	543.2	80.6	279.1	10.1	269.0	781.0	274.4	506.6
1993	6,389.6	5,317.2	5,246.2	4,704.1	542.1	71.0	290.1	10.3	279.8	782.3	267.7	514.5
1994	6,610.7	5,530.6	5,446.0	4,883.3	562.7	85.0	297.9	10.4	287.5	792.6	258.4	524.2
1995	6,761.7	5,677.4	5,604.9	5,027.5	577.4	72.0	304.8	10.8	294.0	780.2	248.2	532.1
1996	6,994.8	5,903.5	5,824.3	5,236.0	588.7	78.6	311.8	10.5	301.3	781.2	240.7	540.8
1997	7,269.8	6,164.9	6,074.3	5,470.5	604.5	90.3	321.5	10.2	311.3	786.2	235.4	551.3
1993:I	6,327.9	5,260.6	5,186.7	4,640.5	546.2	74.0	284.6	10.3	274.2	782.7	271.3	511.4
II	6,359.9	5,287.9	5,213.4	4,672.5	541.0	74.7	289.4	10.4	279.0	782.6	269.2	513.4
III	6,393.5	5,318.5	5,257.1	4,716.5	540.6	61.0	292.5	10.3	282.2	782.5	267.0	515.5
IV	6,476.9	5,401.9	5,327.6	4,787.1	540.6	74.4	293.9	10.3	283.6	781.3	263.5	517.8
1994:I	6,524.5	5,447.5	5,361.7	4,799.8	561.9	86.3	294.9	10.3	284.6	782.4	262.5	519.9
II	6,600.3	5,520.7	5,435.8	4,881.5	554.4	85.4	296.9	10.3	286.6	783.0	259.8	523.2
III	6,629.5	5,547.5	5,461.6	4,897.1	564.5	86.4	298.8	10.4	288.4	783.6	257.6	526.0
IV	6,688.6	5,606.6	5,524.8	4,954.9	569.8	81.9	301.0	10.5	290.5	781.5	253.8	527.8
1995:I	6,717.5	5,633.3	5,557.4	4,982.3	575.0	75.6	302.7	10.7	292.1	782.0	252.0	530.0
II	6,724.2	5,638.1	5,564.2	4,986.8	577.3	73.4	304.1	10.8	293.3	782.5	251.0	531.5
III	6,779.5	5,693.4	5,624.9	5,050.6	574.5	67.9	305.4	10.9	294.5	781.5	249.3	537.3
IV	6,825.8	5,745.1	5,673.1	5,090.3	582.9	71.3	307.0	10.8	296.2	774.9	240.3	534.9
1996:I	6,882.0	5,801.1	5,724.3	5,143.1	581.5	76.2	308.5	10.7	297.9	773.8	240.5	533.5
II	6,983.9	5,889.6	5,810.8	5,225.9	585.4	78.2	310.8	10.6	300.2	784.9	242.8	542.4
III	7,020.0	5,925.3	5,846.0	5,255.0	591.4	78.5	312.7	10.5	302.3	783.7	241.3	542.7
IV	7,093.1	5,997.9	5,916.1	5,319.9	596.6	81.3	315.0	10.4	304.7	782.3	238.2	544.5
1997:I	7,166.7	6,057.9	5,979.7	5,379.2	601.0	87.9	317.5	10.4	307.2	783.7	237.4	546.8
II	7,235.5	6,113.3	6,042.3	5,438.9	604.0	90.7	320.2	10.3	310.0	785.7	236.3	549.9
III	7,311.2	6,203.0	6,109.2	5,504.4	605.6	93.7	323.1	10.2	313.0	788.1	235.5	553.2
IV	7,364.6	6,255.6	6,165.8	5,559.6	607.3	88.8	325.1	10.0	315.1	787.3	232.5	555.5
1998:I	7,464.7	6,352.3	6,260.4	5,655.9	606.2	91.1	326.7	9.8	316.9	789.6	232.4	557.9
II	7,498.6	6,382.6	6,290.5	5,680.5	611.5	91.4	327.7	9.9	317.9	792.2	231.9	561.1
III	7,566.5	6,445.9	6,351.8	5,736.1	617.3	93.6	329.4	10.0	319.5	795.4	232.0	564.2

[1] Gross domestic business product equals gross domestic product less gross product of households and institutions and of general government. Nonfarm product equals gross domestic business product less gross farm product.

[2] Equals compensation of general government employees plus general government consumption of fixed capital.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–12.—*Gross domestic product by industry, 1959–97*

[Billions of dollars]

Year	Gross domestic product	Private industries												Government
		Agriculture, forestry, and fishing	Mining	Construction	Manufacturing			Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Statistical discrepancy[1]	
					Total	Durable goods	Nondurable goods							
Based on 1972 SIC:														
1959	507.2	20.3	12.5	23.7	140.3	81.7	58.6	44.9	36.0	49.1	68.6	48.4	–1.6	64.8
1960	526.6	21.4	12.9	24.2	142.5	82.6	59.8	47.2	37.6	50.4	73.2	51.6	–3.2	68.9
1961	544.8	21.7	13.0	25.2	142.9	81.7	61.3	48.7	38.7	51.7	77.7	55.0	–2.8	73.0
1962	585.2	22.1	13.2	27.0	156.7	92.1	64.6	51.8	41.3	55.4	82.2	59.3	–1.8	78.2
1963	617.4	22.3	13.5	28.8	166.1	98.3	67.8	54.7	43.0	57.9	86.8	63.4	–3.0	83.9
1964	663.0	21.4	13.9	31.5	177.9	105.9	72.0	58.1	46.3	63.5	92.7	69.1	–1.5	90.1
1965	719.1	24.2	14.0	34.6	196.3	118.8	77.5	62.2	49.9	68.0	99.7	74.7	–.8	96.3
1966	787.8	25.4	14.7	37.7	215.3	131.1	84.3	67.1	54.3	72.7	107.8	82.7	3.3	106.9
1967	833.6	24.9	15.2	39.5	220.8	134.1	86.7	70.4	57.7	78.2	117.0	90.8	1.3	117.9
1968	910.6	25.7	16.3	43.3	241.1	146.3	94.8	76.2	63.3	86.6	126.6	99.4	.9	131.2
1969	982.2	28.6	17.1	48.4	254.4	154.4	100.0	82.5	68.4	94.2	136.1	110.8	–1.5	143.3
1970	1,035.6	29.8	18.7	51.1	249.6	146.2	103.4	88.1	72.1	100.2	146.0	120.5	1.9	157.6
1971	1,125.4	32.1	18.9	56.1	263.0	154.2	108.9	97.2	77.9	109.2	162.8	130.4	6.1	171.7
1972	1,237.3	37.3	19.7	62.5	290.5	172.6	117.9	108.3	87.0	118.8	176.2	144.0	4.3	187.8
1973	1,382.6	54.8	23.8	69.7	323.5	195.7	127.8	119.2	97.6	130.9	192.9	163.1	3.4	203.8
1974	1,496.9	53.0	37.1	73.6	337.4	202.2	135.3	129.8	111.0	136.7	208.7	179.3	5.5	224.8
1975	1,630.6	54.7	42.8	75.1	354.9	207.0	147.8	142.2	121.0	152.8	226.6	199.1	12.1	249.3
1976	1,819.0	53.5	47.6	84.9	405.5	239.9	165.6	161.2	129.0	172.2	250.0	223.9	19.9	271.2
1977	2,026.9	54.1	54.1	93.8	462.6	277.6	185.0	179.1	142.2	190.2	283.4	255.5	18.2	293.5
1978	2,291.4	63.1	61.5	110.6	517.1	316.9	200.2	202.2	160.9	215.6	328.0	294.6	18.1	319.8
1979	2,557.5	74.5	71.2	124.7	571.3	343.5	227.9	219.0	182.3	234.2	370.6	333.2	28.2	348.2
1980	2,784.2	66.7	112.7	128.6	584.4	348.7	235.7	242.1	195.2	245.9	418.3	377.3	27.6	385.5
1981	3,115.9	81.1	151.7	129.6	652.1	388.1	264.0	276.2	216.3	270.4	470.9	426.2	14.9	426.5
1982	3,242.1	77.0	149.5	129.8	649.8	377.4	272.4	293.0	219.5	288.1	504.0	471.8	–2.5	461.9
1983	3,514.5	62.5	127.5	138.9	690.2	397.3	292.8	328.1	229.1	321.9	565.3	521.5	37.1	492.4
1984	3,902.4	83.5	134.2	165.0	780.6	469.5	311.1	357.8	264.3	362.2	625.6	590.4	5.0	533.8
1985	4,180.7	84.3	132.8	185.5	803.1	477.1	326.0	376.6	280.7	395.0	690.6	651.1	2.4	578.6
1986	4,422.2	82.6	86.3	207.3	833.2	487.0	346.2	393.8	293.5	415.2	760.4	712.2	23.3	615.0
Based on 1987 SIC:														
1987	4,692.3	88.5	88.3	217.0	889.2	513.3	375.9	420.5	300.8	435.8	829.7	784.6	–15.4	653.2
1988	5,049.6	88.9	99.9	233.4	971.5	556.6	414.8	443.4	336.3	459.3	891.4	877.8	–47.3	694.9
1989	5,438.7	101.9	96.3	242.2	1,013.5	574.9	438.6	460.9	356.3	490.2	959.3	965.5	13.2	739.2
1990	5,743.8	108.7	112.3	245.2	1,031.4	572.8	458.6	482.1	367.2	503.5	1,024.1	1,059.4	17.4	792.5
1991	5,916.7	102.9	101.1	228.8	1,028.1	558.3	469.8	511.6	388.1	517.4	1,081.6	1,107.6	10.1	839.5
1992	6,244.4	112.4	92.2	229.7	1,063.6	573.4	490.3	528.7	406.4	544.3	1,147.9	1,200.8	44.8	873.6
1993	6,558.1	106.1	94.6	242.4	1,116.5	615.7	500.8	561.7	423.3	573.2	1,218.1	1,267.0	52.6	902.7
1994	6,947.0	119.2	94.9	268.7	1,216.1	679.2	536.9	598.7	463.0	615.3	1,267.6	1,350.4	14.6	933.5
1995	7,269.6	109.5	98.7	286.4	1,282.2	711.6	570.5	616.4	491.4	641.0	1,362.3	1,445.4	–26.5	962.7
1996	7,661.6	130.4	113.8	311.9	1,309.1	737.3	571.8	649.3	519.8	673.0	1,448.6	1,544.2	–32.2	993.7
1997	8,110.9	131.7	120.5	328.8	1,378.9	784.0	594.9	676.3	562.8	712.9	1,570.3	1,656.8	–55.8	1,027.6

[1] Equals gross domestic product (GDP) measured as the sum of expenditures less gross domestic income.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–13.—*Real gross domestic product by industry, 1977–97*

[Billions of chained (1992) dollars]

Year	Gross domestic product	Private industries												Government
		Agriculture, forestry, and fishing	Mining	Construction	Manufacturing			Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Statistical discrepancy[1]	
					Total	Durable goods	Nondurable goods							
Based on 1972 SIC:														
1977	4,273.6	61.1	32.4	213.8	796.5	435.1	361.9	346.8	201.0	364.5	742.7	712.5	37.3	717.4
1978	4,503.0	59.0	34.6	221.2	836.5	461.7	374.0	362.8	215.5	389.9	786.0	759.5	34.5	731.6
1979	4,630.6	64.4	73.6	227.8	864.6	470.5	395.4	378.7	228.2	389.1	830.7	787.3	49.5	739.4
1980	4,615.0	62.9	82.0	214.7	822.6	451.2	371.5	385.0	226.0	374.5	862.8	810.8	44.5	743.8
1981	4,720.7	77.3	81.4	195.4	853.5	468.6	390.5	391.0	241.1	386.2	873.1	830.0	22.0	749.4
1982	4,620.3	80.1	78.8	172.8	810.0	427.9	386.2	379.6	246.5	387.9	875.8	838.1	–3.4	748.3
1983	4,803.7	58.1	73.7	181.0	856.7	448.3	413.8	405.2	251.5	422.6	900.0	862.8	49.7	753.0
1984	5,140.1	77.7	82.0	210.1	948.1	521.8	426.1	422.1	286.8	465.0	945.0	920.6	6.5	760.1
1985	5,323.5	90.7	87.1	232.9	976.4	534.6	442.1	423.8	298.1	496.8	968.1	963.9	3.0	777.9
1986	5,487.7	90.2	83.6	239.0	967.6	527.4	441.0	421.7	333.0	526.6	969.0	996.8	28.6	795.7
Based on 1987 SIC:														
1987	5,649.5	93.6	86.4	239.6	1,041.7	565.0	477.9	453.9	322.8	509.2	1,015.7	1,041.4	–18.4	810.0
1988	5,865.2	85.0	104.4	248.8	1,111.0	615.9	494.8	468.2	343.8	537.6	1,069.4	1,099.1	–54.6	829.0
1989	6,052.0	91.4	92.8	251.9	1,106.0	612.9	492.8	474.5	366.3	553.4	1,101.8	1,149.5	14.7	847.7
1990	6,136.3	99.3	96.9	247.5	1,090.0	600.4	489.4	491.7	360.5	546.4	1,109.0	1,181.7	18.5	867.0
1991	6,079.4	101.2	97.5	229.0	1,050.2	568.0	482.2	512.8	381.2	534.1	1,105.7	1,174.2	10.3	873.7
1992	6,244.4	112.4	92.2	229.7	1,063.6	573.4	490.3	528.7	406.4	544.3	1,147.9	1,200.8	44.8	873.6
1993	6,389.6	102.3	96.4	234.3	1,100.8	608.3	492.5	551.9	416.5	565.2	1,174.3	1,223.5	51.3	875.8
1994	6,610.7	119.1	102.5	249.8	1,193.2	671.3	522.0	584.1	448.6	601.2	1,196.9	1,256.5	13.9	878.3
1995	6,761.7	106.2	107.4	254.2	1,271.6	727.0	545.1	592.2	455.8	626.4	1,206.2	1,305.3	–23.1	876.5
1996	6,994.8	114.2	103.0	268.5	1,293.8	769.0	527.8	626.4	486.6	665.9	1,246.0	1,349.1	–27.1	877.8
1997	7,269.8	127.6	109.9	274.4	1,369.9	838.6	537.6	644.3	532.0	713.5	1,286.0	1,398.6	–45.4	884.0

[1] Equals the current-dollar statistical discrepancy deflated by the implicit price deflator for gross domestic business product.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–14.—*Gross domestic product of nonfinancial corporate business, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product of nonfinancial corporate business	Consumption of fixed capital	Net domestic product											
			Total	Indirect business taxes[1]	Domestic income									
					Total	Compensation of employees	Corporate profits with inventory valuation and capital consumption adjustments							Net interest
							Total	Profits				Inventory valuation adjustment	Capital consumption adjustment	
								Profits before tax	Profits tax liability	Profits after tax				
										Total	Dividends	Undistributed profits		
1959	267.5	23.6	243.8	26.0	217.8	171.5	43.2	43.6	20.7	22.9	10.0	12.9	–0.3	–0.1	3.1
1960	278.1	24.5	253.6	28.3	225.3	181.2	40.7	40.3	19.2	21.1	10.6	10.6	–.2	.5	3.5
1961	285.5	25.1	260.5	29.5	230.9	185.3	41.6	40.1	19.5	20.7	10.6	10.1	.3	1.2	4.0
1962	311.7	26.0	285.7	32.0	253.7	200.1	49.1	45.0	20.6	24.3	11.4	13.0	.0	4.1	4.5
1963	331.8	27.0	304.8	34.0	270.8	211.1	54.9	49.8	22.8	27.0	12.6	14.4	.1	5.0	4.8
1964	358.1	28.4	329.8	36.6	293.2	226.7	61.2	56.0	24.0	32.1	13.7	18.4	–.5	5.7	5.3
1965	393.5	30.3	363.2	39.2	324.0	246.5	71.4	66.2	27.2	39.0	15.6	23.4	–1.2	6.5	6.1
1966	431.0	33.2	397.8	40.5	357.4	274.0	76.1	71.4	29.5	41.9	16.8	25.1	–2.1	6.8	7.4
1967	453.4	36.3	417.2	43.1	374.1	292.3	73.0	67.5	27.8	39.7	17.5	22.2	–1.6	7.0	8.8
1968	500.5	39.9	460.5	49.7	410.8	323.2	77.5	74.0	33.6	40.4	19.1	21.3	–3.7	7.1	10.1
1969	543.3	44.1	499.2	54.7	444.5	358.8	72.5	70.8	33.3	37.5	19.1	18.4	–5.9	7.5	13.2
1970	561.4	48.5	512.8	58.8	454.0	378.7	58.3	58.1	27.2	31.0	18.5	12.5	–6.6	6.7	17.1
1971	606.4	53.0	553.4	64.5	488.9	402.0	68.8	67.1	29.9	37.1	18.5	18.7	–4.6	6.3	18.1
1972	673.3	57.6	615.8	69.2	546.6	447.1	80.4	78.6	33.8	44.8	20.1	24.7	–6.6	8.4	19.2
1973	754.5	62.6	691.8	76.3	615.5	505.9	87.1	98.6	40.2	58.4	21.1	37.3	–20.0	8.6	22.5
1974	814.6	73.3	741.3	81.4	659.9	556.8	74.8	109.2	42.2	67.0	21.7	45.2	–39.5	5.1	28.3
1975	881.2	87.5	793.7	87.4	706.3	580.3	97.3	109.9	41.5	68.4	24.8	43.6	–11.0	–1.6	28.7
1976	995.3	96.9	898.4	95.1	803.3	657.4	118.4	137.3	53.0	84.4	28.0	56.3	–14.9	–4.0	27.5
1977	1,125.4	108.8	1,016.7	104.1	912.6	742.6	139.4	158.6	59.9	98.7	31.5	67.2	–16.6	–2.6	30.6
1978	1,284.1	124.4	1,159.7	116.4	1,043.2	852.9	154.0	183.5	67.1	116.4	36.4	80.0	–25.0	–4.5	36.3
1979	1,429.7	143.9	1,285.8	125.4	1,160.4	968.1	147.2	195.5	69.6	125.9	38.1	87.9	–41.6	–6.8	45.1
1980	1,553.8	155.4	1,388.4	141.6	1,246.8	1,058.5	130.1	181.6	67.0	114.6	45.3	69.2	–43.0	–8.4	58.2
1981	1,767.3	193.2	1,574.1	170.4	1,403.7	1,171.5	160.3	181.4	63.9	117.5	53.3	64.2	–25.7	4.6	71.9
1982	1,823.4	209.7	1,613.7	172.1	1,441.6	1,217.0	142.1	133.7	46.3	87.4	53.3	34.2	–9.9	18.3	82.5
1983	1,930.3	222.7	1,727.6	189.0	1,538.6	1,280.5	181.5	157.4	59.4	97.9	64.2	33.8	–9.1	33.2	76.6
1984	2,187.5	228.7	1,958.8	210.2	1,748.6	1,421.7	239.0	191.0	73.7	117.3	67.8	49.5	–5.6	53.7	87.8
1985	2,319.3	238.9	2,080.4	224.4	1,856.0	1,521.9	243.5	167.6	69.9	97.6	72.3	25.4	.5	75.4	90.6
1986	2,416.3	253.2	2,163.1	235.8	1,927.3	1,603.2	226.0	151.5	75.6	75.9	73.9	2.1	11.4	63.1	98.1
1987	2,589.6	263.6	2,326.1	246.7	2,079.3	1,715.5	258.6	214.9	93.5	121.4	75.9	45.5	–20.7	64.4	105.3
1988	2,805.2	279.7	2,525.5	263.5	2,262.0	1,846.7	294.3	260.6	101.7	158.8	79.4	79.4	–29.3	63.1	121.0
1989	2,950.9	297.4	2,653.5	280.8	2,372.7	1,950.0	276.7	237.0	98.8	138.3	103.5	34.8	–17.5	57.2	145.9
1990	3,084.0	308.4	2,775.6	296.8	2,478.8	2,056.0	274.3	237.3	95.7	141.6	118.4	23.3	–13.5	51.5	147.5
1991	3,132.1	320.2	2,811.9	318.0	2,493.9	2,090.6	269.7	218.1	85.4	132.8	124.6	8.2	4.0	47.6	133.7
1992	3,262.6	330.5	2,932.2	337.0	2,595.1	2,195.3	295.6	257.8	91.1	166.7	133.6	33.1	–7.5	45.3	104.2
1993	3,430.4	340.3	3,090.1	358.5	2,731.6	2,290.7	346.4	308.6	105.0	203.6	147.7	55.9	–8.5	46.3	94.5
1994	3,709.7	360.7	3,349.0	389.0	2,960.1	2,426.7	437.1	392.3	128.8	263.5	158.6	104.9	–16.1	60.8	96.3
1995	3,920.4	375.6	3,544.8	397.3	3,147.5	2,556.0	487.4	441.5	136.7	304.7	179.3	125.4	–22.6	68.5	104.2
1996	4,134.4	393.4	3,741.0	411.6	3,329.4	2,679.7	548.5	473.1	151.5	321.5	217.1	104.4	–1.2	76.7	101.2
1997	4,414.5	415.4	3,999.1	436.8	3,562.3	2,871.2	594.2	505.4	169.8	335.6	229.3	106.3	6.9	81.9	96.9
1993: I	3,351.8	335.8	3,015.9	348.2	2,667.7	2,253.5	316.0	275.6	92.5	183.1	143.5	39.6	–12.5	52.9	98.2
II	3,400.3	337.3	3,063.0	353.8	2,709.2	2,279.9	334.4	306.9	104.7	202.2	144.2	58.0	–17.1	44.5	95.0
III	3,444.3	344.5	3,099.8	359.7	2,740.1	2,301.5	345.5	303.1	102.9	200.2	147.6	52.5	.2	42.2	93.1
IV	3,525.2	343.4	3,181.9	372.3	2,809.6	2,327.8	389.9	349.0	120.0	228.9	155.6	73.4	–4.8	45.7	91.9
1994: I	3,624.5	375.1	3,249.3	380.4	2,868.9	2,372.5	405.4	359.1	119.5	239.6	150.4	89.2	–4.3	50.6	91.1
II	3,668.9	351.6	3,317.3	386.1	2,931.1	2,409.8	427.0	380.7	124.6	256.1	158.7	97.4	–15.1	61.4	94.3
III	3,729.1	355.9	3,373.2	392.3	2,980.9	2,439.2	444.1	400.7	130.1	270.6	158.5	112.1	–21.2	64.6	97.6
IV	3,816.4	360.0	3,456.4	397.1	3,059.2	2,485.2	472.0	428.9	141.1	287.8	166.8	121.0	–23.6	66.7	102.1
1995: I	3,844.1	365.6	3,478.5	396.1	3,082.4	2,519.5	460.0	431.5	134.6	296.9	169.0	127.9	–37.9	66.3	103.0
II	3,879.3	372.6	3,506.7	397.0	3,109.7	2,539.5	466.2	432.1	132.8	299.2	171.2	128.0	–33.9	68.1	104.0
III	3,956.5	378.1	3,578.3	396.0	3,182.3	2,569.6	508.3	451.4	139.3	312.0	184.5	127.6	–13.4	70.3	104.5
IV	4,001.7	385.9	3,615.8	400.2	3,215.6	2,595.3	515.0	450.9	140.3	310.7	192.7	118.0	–5.3	69.5	105.3
1996: I	4,033.0	385.8	3,647.2	405.3	3,241.9	2,607.1	533.0	460.9	146.8	314.0	208.4	105.5	–2.9	75.1	101.9
II	4,106.4	390.6	3,715.8	409.1	3,306.7	2,661.8	543.4	473.3	151.3	321.9	210.4	111.5	–6.2	76.3	101.6
III	4,168.9	395.9	3,773.1	412.7	3,360.4	2,704.3	554.9	476.5	152.5	324.0	222.2	101.8	1.2	77.2	101.2
IV	4,229.3	401.3	3,828.0	419.5	3,408.5	2,745.7	562.8	481.8	155.5	326.3	227.3	99.0	3.0	78.0	100.0
1997: I	4,307.1	406.5	3,900.6	425.6	3,475.0	2,799.1	575.4	488.3	164.4	323.9	227.0	96.8	8.1	79.1	100.6
II	4,375.7	412.2	3,963.5	434.5	3,529.0	2,843.4	586.7	495.6	166.4	329.2	224.6	104.6	10.3	80.7	99.0
III	4,461.9	418.4	4,043.4	442.1	3,601.4	2,889.8	615.2	528.0	178.1	349.9	226.1	123.8	4.8	82.5	96.3
IV	4,513.2	424.4	4,088.8	445.0	3,643.8	2,952.6	599.3	509.8	170.1	339.6	239.6	100.1	4.3	85.3	91.9
1998: I	4,574.2	428.5	4,145.7	450.5	3,695.2	3,002.3	599.3	484.2	159.7	324.5	237.3	87.2	25.3	89.8	93.6
II	4,618.8	433.1	4,185.7	454.2	3,731.4	3,043.1	593.2	491.8	162.1	329.6	254.3	75.3	7.8	93.7	95.2
III	4,688.9	437.4	4,251.4	461.1	3,790.3	3,086.3	607.5	497.3	163.8	333.5	247.3	86.2	11.7	98.5	96.5

[1] Indirect business tax and nontax liability plus business transfer payments less subsidies.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–15.—*Output, costs, and profits of nonfinancial corporate business, 1959–98*

[Quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product of nonfinancial corporate business (billions of dollars)		Current-dollar cost and profit per unit of real output (dollars)[1]							
			Total cost and profit[2]	Consumption of fixed capital	Indirect business taxes[3]	Compensation of employees	Corporate profits with inventory valuation and capital consumption adjustments			Net interest
	Current dollars	Chained (1992) dollars					Total	Profits tax liability	Profits after tax[4]	
1959	267.5	910.3	0.294	0.026	0.029	0.188	0.047	0.023	0.025	0.003
1960	278.1	940.4	.296	.026	.030	.193	.043	.020	.023	.004
1961	285.5	960.5	.297	.026	.031	.193	.043	.020	.023	.004
1962	311.7	1,041.5	.299	.025	.031	.192	.047	.020	.027	.004
1963	331.8	1,101.1	.301	.025	.031	.192	.050	.021	.029	.004
1964	358.1	1,178.5	.304	.024	.031	.192	.052	.020	.032	.005
1965	393.5	1,275.2	.309	.024	.031	.193	.056	.021	.035	.005
1966	431.0	1,364.4	.316	.024	.030	.201	.056	.022	.034	.005
1967	453.4	1,399.1	.324	.026	.031	.209	.052	.020	.032	.006
1968	500.5	1,487.7	.336	.027	.033	.217	.052	.023	.030	.007
1969	543.3	1,546.9	.351	.028	.035	.232	.047	.022	.025	.009
1970	561.4	1,532.5	.366	.032	.038	.247	.038	.018	.020	.011
1971	606.4	1,594.1	.380	.033	.040	.252	.043	.019	.024	.011
1972	673.3	1,719.4	.392	.033	.040	.260	.047	.020	.027	.011
1973	754.5	1,819.7	.415	.034	.042	.278	.048	.022	.026	.012
1974	814.6	1,786.8	.456	.041	.046	.312	.042	.024	.018	.016
1975	881.2	1,759.3	.501	.050	.050	.330	.055	.024	.032	.016
1976	995.3	1,901.3	.524	.051	.050	.346	.062	.028	.034	.014
1977	1,125.4	2,041.8	.551	.053	.051	.364	.068	.029	.039	.015
1978	1,284.1	2,177.1	.590	.057	.053	.392	.071	.031	.040	.017
1979	1,429.7	2,224.2	.643	.065	.056	.435	.066	.031	.035	.020
1980	1,553.8	2,229.9	.697	.074	.064	.475	.058	.030	.028	.026
1981	1,767.3	2,331.9	.758	.083	.073	.502	.069	.027	.041	.031
1982	1,823.4	2,298.8	.793	.091	.075	.529	.062	.020	.042	.036
1983	1,950.3	2,405.1	.811	.093	.079	.532	.075	.025	.051	.037
1984	2,187.5	2,641.2	.828	.087	.080	.538	.090	.028	.063	.033
1985	2,319.3	2,747.3	.844	.087	.082	.554	.089	.025	.063	.033
1986	2,416.3	2,835.4	.852	.089	.083	.565	.080	.027	.053	.035
1987	2,589.6	2,973.9	.871	.089	.083	.577	.087	.031	.056	.035
1988	2,805.2	3,130.1	.896	.089	.084	.590	.094	.033	.062	.039
1989	2,950.9	3,179.8	.928	.094	.088	.613	.087	.031	.056	.046
1990	3,084.0	3,210.2	.961	.096	.092	.640	.086	.030	.056	.046
1991	3,132.1	3,168.8	.988	.101	.100	.660	.085	.027	.058	.042
1992	3,262.6	3,262.6	1.000	.101	.103	.673	.091	.028	.063	.032
1993	3,430.4	3,374.4	1.017	.101	.106	.679	.103	.031	.072	.028
1994	3,709.7	3,586.3	1.034	.101	.108	.677	.122	.036	.086	.027
1995	3,920.4	3,745.5	1.047	.100	.106	.682	.130	.037	.094	.028
1996	4,134.4	3,914.8	1.056	.100	.105	.685	.140	.039	.101	.026
1997	4,414.5	4,154.4	1.063	.100	.105	.691	.143	.041	.102	.023
1993: I	3,351.8	3,310.2	1.013	.101	.105	.681	.095	.028	.068	.030
II	3,400.3	3,352.5	1.014	.101	.106	.680	.100	.031	.069	.028
III	3,444.3	3,387.2	1.017	.102	.106	.679	.102	.030	.072	.027
IV	3,525.2	3,447.7	1.022	.100	.108	.675	.113	.035	.078	.027
1994: I	3,624.5	3,526.1	1.028	.106	.108	.673	.115	.034	.081	.026
II	3,668.9	3,559.8	1.031	.099	.108	.677	.120	.035	.085	.026
III	3,729.1	3,594.6	1.037	.099	.109	.679	.124	.036	.087	.027
IV	3,816.4	3,664.9	1.041	.098	.108	.678	.129	.038	.090	.028
1995: I	3,844.1	3,682.3	1.044	.099	.108	.684	.125	.037	.088	.028
II	3,879.3	3,710.0	1.046	.100	.107	.685	.126	.036	.090	.028
III	3,956.5	3,776.2	1.048	.100	.105	.680	.135	.037	.098	.028
IV	4,001.7	3,813.5	1.049	.101	.105	.681	.135	.037	.098	.028
1996: I	4,033.0	3,826.9	1.054	.101	.106	.681	.139	.038	.101	.027
II	4,106.4	3,891.0	1.055	.100	.105	.684	.140	.039	.101	.026
III	4,168.9	3,944.2	1.057	.100	.105	.686	.141	.039	.102	.026
IV	4,229.3	3,997.1	1.058	.100	.105	.687	.141	.039	.102	.025
1997: I	4,307.1	4,054.5	1.062	.100	.105	.690	.142	.041	.101	.025
II	4,375.7	4,117.0	1.063	.100	.106	.691	.143	.040	.102	.024
III	4,461.9	4,198.5	1.063	.100	.105	.688	.147	.042	.104	.023
IV	4,513.2	4,247.5	1.063	.100	.105	.695	.141	.040	.101	.022
1998: I	4,574.2	4,309.2	1.061	.099	.105	.697	.139	.037	.102	.022
II	4,618.8	4,352.0	1.061	.100	.104	.699	.136	.037	.099	.022
III	4,688.9	4,417.2	1.062	.099	.104	.699	.138	.037	.100	.022

[1] Output is measured by gross domestic product of nonfinancial corporate business in chained (1992) dollars.

[2] This is equal to the deflator for gross domestic product of nonfinancial corporate business with the decimal point shifted two places to the left.

[3] Indirect business tax and nontax liability plus business transfer payments less subsidies.

[4] With inventory valuation and capital consumption adjustments.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–16.—*Personal consumption expenditures, 1959–98*

(Billions of dollars; quarterly data at seasonally adjusted annual rates)

Year or quarter	Personal consumption expenditures	Durable goods			Nondurable goods					Services				
		Total[1]	Motor vehicles and parts	Furniture and household equipment	Total[1]	Food	Clothing and shoes	Gasoline and oil	Fuel oil and coal	Total[1]	Housing[2]	Household operation		Transportation	Medical care
												Total[1]	Electricity and gas		
1959	318.1	42.7	18.9	18.1	148.5	80.7	20.4	11.3	4.0	127.0	45.0	13.7	7.6	10.5	16.4
1960	332.2	43.3	19.1	18.0	152.9	82.3	21.0	12.0	3.8	136.0	48.2	20.3	8.3	11.2	17.6
1961	342.6	41.8	17.8	18.3	156.6	84.0	27.6	12.0	3.8	144.3	51.2	21.2	8.8	11.7	18.7
1962	363.4	46.9	21.5	19.3	162.2	86.1	29.0	12.6	3.8	153.7	54.7	22.4	9.4	12.2	20.8
1963	383.0	51.6	24.4	20.7	168.2	88.3	25.8	13.0	4.0	163.2	58.0	23.6	9.9	12.7	22.6
1964	411.4	56.7	26.0	23.2	178.7	93.6	32.4	13.6	4.1	176.3	61.4	25.0	10.4	13.4	25.8
1965	444.3	63.5	29.9	25.1	191.6	100.7	34.1	14.8	4.4	189.4	65.4	26.5	10.9	14.5	28.0
1966	481.9	68.3	30.3	28.2	208.8	109.3	37.4	16.0	4.7	204.8	69.5	28.2	11.5	15.9	30.7
1967	509.5	70.4	30.0	30.0	217.1	112.5	39.2	17.1	4.8	222.0	74.1	30.2	12.2	17.3	33.9
1968	555.8	80.8	36.1	32.9	235.7	122.2	43.2	18.6	4.7	243.4	79.7	32.3	13.0	18.9	39.2
1969	604.7	85.9	38.4	34.7	253.2	131.5	46.5	20.5	4.6	265.5	85.8	35.1	14.0	20.9	44.7
1970	648.1	85.0	35.5	35.7	272.0	143.8	47.8	21.9	4.4	291.1	94.0	37.8	15.2	23.7	50.4
1971	702.5	96.9	44.5	37.8	285.5	149.7	51.7	23.2	4.6	320.1	102.7	41.0	16.6	27.1	56.9
1972	770.7	110.4	51.1	42.4	308.0	161.4	56.4	24.4	5.1	352.3	112.1	45.3	18.4	29.8	63.8
1973	851.6	123.5	56.1	47.9	343.1	179.6	62.5	28.1	6.3	384.9	122.7	49.8	20.0	31.2	71.6
1974	931.2	122.3	49.5	51.5	384.5	201.8	66.0	36.1	7.8	424.4	134.1	55.5	23.5	33.3	80.6
1975	1,029.1	133.5	54.8	54.5	423.1	223.1	70.8	39.7	8.6	475.0	147.0	63.7	28.5	35.7	93.5
1976	1,148.8	158.9	71.3	60.2	468.2	247.4	76.6	43.0	10.1	531.8	161.5	72.4	32.5	41.3	106.7
1977	1,277.1	181.1	83.5	67.1	496.9	262.4	84.1	46.9	11.1	599.0	179.5	81.9	37.6	49.2	123.0
1978	1,428.8	201.4	93.1	74.0	549.7	289.2	94.3	50.1	11.5	677.4	201.7	91.2	42.1	53.5	140.0
1979	1,593.5	213.9	93.5	82.3	624.1	324.2	101.2	66.2	14.4	755.6	226.6	100.0	46.8	59.1	158.0
1980	1,760.4	213.5	87.0	86.0	695.5	355.4	107.3	86.7	19.4	851.4	255.2	113.0	56.3	64.7	181.2
1981	1,941.3	230.5	95.8	91.3	758.7	387.6	117.2	97.9	15.6	952.6	287.9	126.0	63.4	68.7	213.0
1982	2,076.8	218.3	102.3	87.5	780.8	402.6	120.5	94.1	14.5	1,050.7	313.2	141.4	72.6	70.9	239.4
1983	2,281.4	279.8	136.9	109.3	830.3	427.3	130.5	93.1	13.5	1,173.3	339.0	155.9	80.7	79.4	267.8
1984	2,492.3	325.1	162.5	117.2	883.6	448.3	142.5	94.6	13.5	1,283.6	370.6	168.0	84.7	90.0	294.1
1985	2,704.8	361.1	175.7	126.3	927.6	466.5	152.1	97.2	13.6	1,416.1	407.1	180.3	88.8	100.0	321.8
1986	2,892.7	398.7	192.4	140.3	957.2	490.8	163.1	80.1	11.3	1,536.8	442.2	186.9	87.2	107.3	346.1
1987	3,094.5	416.7	193.1	150.4	1,014.0	513.9	174.4	85.4	11.2	1,663.8	476.6	194.9	88.9	118.2	381.1
1988	3,349.7	451.0	207.5	152.8	1,081.1	551.2	185.9	87.1	11.4	1,817.6	512.9	206.6	94.1	130.5	428.7
1989	3,594.8	472.8	214.4	173.3	1,163.8	588.4	199.9	96.6	11.4	1,958.1	547.4	219.8	98.8	137.8	477.1
1990	3,839.3	476.5	210.3	176.0	1,245.3	630.5	205.9	109.2	12.0	2,117.5	586.3	226.3	98.7	143.7	537.7
1991	3,975.1	455.7	187.6	178.5	1,277.6	650.0	211.3	103.9	11.3	2,242.3	616.5	237.6	104.9	145.3	586.5
1992	4,219.8	488.5	206.9	198.4	1,321.8	660.0	225.5	106.6	10.9	2,409.4	646.8	248.2	106.6	158.1	646.6
1993	4,455.2	530.2	226.2	204.9	1,370.7	684.8	236.5	107.6	10.7	2,558.4	672.6	268.8	115.8	170.2	695.6
1994	4,717.0	579.5	246.6	216.7	1,428.4	714.5	247.8	109.4	10.5	2,709.1	712.7	283.7	116.6	186.2	731.6
1995	4,953.9	611.0	255.4	241.2	1,473.6	734.8	254.1	115.5	10.9	2,869.2	750.4	296.9	119.2	203.1	776.2
1996	5,215.7	643.3	264.2	256.0	1,539.2	765.0	265.7	124.5	12.9	3,033.2	787.6	314.5	125.5	222.3	806.8
1997	5,493.7	673.0	269.5	271.4	1,609.6	780.9	278.0	126.5	11.2	3,220.1	825.8	327.3	126.2	240.3	843.4
1993: I	4,365.4	506.4	212.4	198.0	1,354.4	676.4	231.3	105.7	10.8	2,504.6	662.2	260.3	112.4	166.8	680.8
II	4,428.1	524.2	224.3	202.1	1,366.3	684.1	235.4	107.6	10.5	2,537.6	668.8	264.0	112.6	163.6	690.8
III	4,488.6	537.2	228.5	207.6	1,373.9	690.2	238.0	105.5	10.9	2,577.4	675.8	274.1	119.2	170.7	701.6
IV	4,554.9	553.1	239.6	212.0	1,388.6	696.6	241.6	107.7	10.7	2,613.8	684.4	276.7	118.8	174.5	709.2
1994: I	4,616.9	563.2	244.1	216.2	1,404.4	703.9	244.1	106.2	11.7	2,649.0	698.1	274.8	112.2	179.6	717.8
II	4,680.1	573.4	243.3	223.5	1,416.0	711.8	245.0	105.1	10.1	2,692.2	707.8	287.1	120.0	184.5	726.5
III	4,750.6	583.3	245.4	229.7	1,439.5	718.5	249.0	111.8	10.6	2,727.8	717.7	286.2	115.6	188.3	735.9
IV	4,820.2	599.3	253.7	235.4	1,453.7	723.7	253.2	114.3	9.8	2,767.2	727.2	286.5	112.8	192.6	746.4
1995: I	4,862.5	598.4	250.3	235.2	1,459.6	726.1	251.4	115.1	10.1	2,804.5	736.9	288.0	113.5	195.7	762.3
II	4,931.5	606.0	254.4	237.9	1,470.7	730.4	252.9	116.8	11.1	2,854.7	745.9	295.2	118.9	200.5	771.4
III	4,986.4	616.9	257.9	243.7	1,476.8	733.0	255.3	115.2	11.0	2,892.7	754.5	300.0	123.8	206.2	780.8
IV	5,035.3	622.2	259.1	247.4	1,487.5	737.6	256.6	114.3	11.3	2,925.0	764.5	301.5	120.7	209.9	790.2
1996: I	5,108.2	632.3	264.5	249.9	1,506.8	743.3	260.1	118.8	12.6	2,969.0	773.2	308.6	124.5	213.5	792.6
II	5,199.0	647.3	267.7	257.1	1,537.9	751.8	267.3	127.5	12.0	3,013.7	782.1	315.4	126.7	219.9	803.7
III	5,242.5	642.5	262.8	257.2	1,543.6	757.5	266.5	123.4	11.8	3,056.3	792.1	313.9	124.7	224.5	809.7
IV	5,313.2	651.1	264.0	260.8	1,568.3	767.4	268.2	126.3	12.3	3,093.5	802.2	320.0	126.1	231.1	821.3
1997: I	5,402.4	668.9	271.3	266.6	1,591.7	775.4	274.8	130.7	11.6	3,143.9	812.8	318.3	123.2	234.4	829.3
II	5,430.8	659.9	260.7	269.2	1,598.7	775.8	275.6	123.7	11.5	3,190.7	824.0	323.6	125.4	238.4	837.7
III	5,540.7	681.2	274.5	273.8	1,611.2	785.3	280.9	125.7	11.7	3,247.9	835.4	330.4	127.0	242.2	848.7
IV	5,593.2	682.2	271.6	276.0	1,618.2	791.1	280.7	125.9	10.7	3,297.2	847.0	337.0	129.2	246.3	857.9
1998: I	5,676.5	705.1	277.0	288.5	1,651.1	756.9	291.0	116.2	9.5	3,338.2	859.1	327.6	116.8	249.5	871.5
II	5,773.7	720.1	288.9	288.9	1,656.2	810.2	295.3	111.6	9.8	3,398.4	871.9	339.2	124.1	253.2	884.2
III	5,846.7	718.9	282.6	294.1	1,670.0	818.7	293.7	111.7	9.8	3,457.7	883.8	348.4	129.8	253.4	893.0

[1] Includes other items not shown separately.
[2] Includes imputed rental value of owner-occupied housing.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–17.—*Real personal consumption expenditures, 1982–98*

[Billions of chained (1992) dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Personal consumption expenditures	Durable goods			Nondurable goods					Services					
		Total[1]	Motor vehicles and parts	Furniture and household equipment	Total[1]	Food	Clothing and shoes	Gasoline and oil	Fuel oil and coal	Total[1]	Housing[2]	Household operation		Transportation	Medical care
												Total[1]	Electricity and gas		
1982	3,081.5	285.5	133.9	91.3	1,080.6	565.1	157.1	91.0	12.8	1,728.2	500.9	187.0	90.3	109.9	442.2
1983	3,240.6	327.4	160.5	103.5	1,112.4	579.7	167.3	93.0	12.9	1,809.0	511.8	193.0	93.0	117.0	459.7
1984	3,407.6	374.9	187.7	115.5	1,151.8	589.9	179.9	95.9	12.8	1,883.0	531.8	197.7	93.6	128.6	472.4
1985	3,566.5	411.4	211.2	125.3	1,178.3	602.2	186.5	97.8	13.0	1,977.3	551.1	205.6	96.1	140.6	490.7
1986	3,708.7	448.4	224.8	140.6	1,215.9	614.0	199.9	102.5	13.4	2,041.4	565.5	209.8	95.1	145.7	510.3
1987	3,822.3	454.9	216.2	149.9	1,239.3	620.8	205.4	105.3	13.0	2,126.9	583.4	219.4	98.4	151.0	537.3
1988	3,972.7	483.5	229.4	160.8	1,274.4	641.6	210.0	106.5	13.2	2,212.4	600.9	229.2	103.4	159.0	561.3
1989	4,064.6	496.2	230.3	170.9	1,303.5	650.1	220.7	108.1	12.6	2,262.3	614.6	237.6	105.6	160.8	575.8
1990	4,132.2	493.3	224.3	173.5	1,316.1	662.9	217.9	107.3	11.2	2,321.3	627.2	240.1	103.7	159.9	602.8
1991	4,105.8	462.0	193.2	177.0	1,302.9	659.6	215.9	103.4	10.8	2,341.0	635.2	243.4	107.0	152.3	621.6
1992	4,219.8	488.5	206.9	189.4	1,321.8	660.0	225.5	106.6	10.9	2,409.4	646.8	248.2	106.6	158.1	646.6
1993	4,343.6	523.8	218.9	207.8	1,351.0	675.3	234.2	108.7	10.7	2,468.9	654.7	261.5	112.2	163.1	655.3
1994	4,486.0	561.2	230.0	229.4	1,389.9	687.9	247.1	109.8	10.7	2,535.5	674.3	270.5	112.5	175.2	662.1
1995	4,605.6	589.1	230.6	251.2	1,417.6	689.5	260.1	114.3	11.2	2,599.6	688.6	280.6	114.7	186.4	675.0
1996	4,752.4	626.1	235.0	277.5	1,450.9	692.6	276.1	116.0	11.2	2,676.7	700.9	291.4	118.0	200.5	686.6
1997	4,913.5	668.6	239.3	307.7	1,486.3	699.3	288.4	117.9	10.3	2,761.5	717.4	301.3	116.0	212.2	701.7
1993: I	4,286.8	504.0	209.1	200.4	1,337.5	670.1	228.8	107.2	10.9	2,445.3	650.6	256.6	111.0	160.3	653.7
II	4,322.8	519.3	218.4	205.0	1,347.8	674.1	233.4	108.6	10.3	2,455.9	652.4	257.7	109.2	161.9	654.3
III	4,366.6	529.9	219.8	210.9	1,356.8	677.9	235.9	109.8	10.9	2,480.0	655.8	265.2	114.7	163.8	656.4
IV	4,398.0	542.1	228.4	214.8	1,361.8	679.2	238.6	109.0	10.9	2,494.4	660.0	266.3	114.1	166.6	656.7
1994: I	4,439.4	550.7	231.6	219.1	1,378.4	684.3	243.1	109.2	11.9	2,510.9	666.8	263.1	113.8	170.3	658.1
II	4,472.2	555.8	228.4	226.1	1,385.5	689.8	242.7	109.6	10.2	2,531.4	672.2	274.1	115.8	173.6	661.1
III	4,498.2	561.7	227.3	232.2	1,393.2	687.9	248.1	109.9	10.7	2,543.8	677.0	272.3	111.4	176.7	663.2
IV	4,534.1	576.6	232.6	240.3	1,402.5	689.5	254.7	110.7	10.2	2,555.9	681.1	272.4	108.9	180.1	666.0
1995: I	4,555.3	575.2	227.4	242.6	1,410.4	689.5	256.4	113.5	10.4	2,570.4	684.9	272.8	109.4	182.8	669.1
II	4,593.6	583.5	229.5	246.6	1,415.9	689.6	258.4	114.2	11.4	2,594.8	687.0	279.6	114.8	184.2	673.0
III	4,623.4	595.3	232.6	254.1	1,418.5	688.9	262.1	114.3	11.3	2,610.3	689.7	286.0	119.1	187.6	677.2
IV	4,650.0	602.4	232.8	261.4	1,425.6	690.0	263.5	115.3	11.7	2,622.9	692.7	283.8	115.6	191.0	680.9
1996: I	4,692.1	611.0	235.9	265.0	1,433.5	691.1	268.0	114.7	11.9	2,648.5	695.7	289.0	118.8	195.5	679.5
II	4,746.6	629.5	237.9	277.7	1,450.4	693.4	276.4	116.2	11.1	2,668.4	698.6	292.7	119.6	199.1	685.6
III	4,768.3	626.5	232.8	280.0	1,454.7	691.4	279.8	116.0	11.3	2,688.1	702.6	289.6	116.5	202.1	687.7
IV	4,802.6	637.5	233.3	287.2	1,465.1	694.3	280.3	117.0	10.6	2,701.7	706.7	294.4	117.2	205.3	693.5
1997: I	4,853.4	656.3	239.1	296.2	1,477.9	699.4	286.0	116.7	9.8	2,722.1	711.2	291.1	112.4	208.6	694.8
II	4,872.7	653.8	230.8	303.7	1,477.1	697.3	283.3	118.3	10.4	2,743.6	715.1	297.8	116.0	210.7	698.6
III	4,947.0	679.6	244.4	312.7	1,495.7	700.6	291.9	118.4	10.7	2,775.4	719.5	305.0	117.2	213.7	704.2
IV	4,981.0	684.8	242.7	318.1	1,494.3	699.9	292.3	118.1	10.1	2,804.8	723.9	311.1	118.4	215.9	709.4
1998: I	5,055.1	710.3	247.8	335.8	1,521.2	706.8	307.4	118.5	9.2	2,829.3	728.7	306.3	110.5	217.9	714.9
II	5,130.2	729.4	258.9	339.3	1,540.9	716.3	311.4	118.4	9.7	2,866.8	732.7	316.5	117.4	221.4	721.6
III	5,181.8	733.7	252.6	352.0	1,549.1	718.9	309.8	121.1	9.9	2,904.8	737.1	326.3	123.8	220.5	725.3

[1] Includes other items not shown separately.
[2] Includes imputed rental value of owner-occupied housing.

Note.—See Table B–2 for data for total personal consumption expenditures for 1959–81.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–18.—*Private gross fixed investment by type, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Private fixed investment	Nonresidential											Residential
		Total nonresidential	Structures				Producers' durable equipment						
			Total [1]	Nonresidential buildings including farm	Utilities	Mining exploration, shafts, and wells	Total [1]	Information processing and related equipment			Industrial equipment	Transportation and related equipment	
								Total	Computers and peripheral equipment [2]	Other			
1959	74.6	46.5	18.1	10.6	4.9	2.5	28.3	4.0	0.0	4.0	8.4	8.3	28.1
1960	75.5	49.2	19.6	12.0	5.0	2.3	29.7	4.7	.2	4.5	9.3	8.5	26.3
1961	75.0	48.6	19.7	12.7	4.6	2.3	28.9	5.1	.3	4.8	8.7	8.0	26.4
1962	81.8	52.8	20.8	13.7	4.6	2.5	32.1	5.4	.3	5.1	9.2	9.8	29.0
1963	87.7	55.6	21.2	13.9	5.0	2.3	34.4	6.1	.7	5.3	10.0	9.4	32.1
1964	96.7	62.4	23.7	15.8	5.4	2.4	38.7	6.8	.9	5.8	11.4	10.6	34.3
1965	108.3	74.1	28.3	19.5	6.1	2.4	45.8	7.8	1.2	6.6	13.6	13.2	34.2
1966	116.7	84.4	31.3	21.3	7.1	2.5	53.0	9.6	1.7	7.9	16.1	14.5	32.3
1967	117.6	85.2	31.5	20.6	7.8	2.4	53.7	10.0	1.9	8.1	16.8	14.3	32.4
1968	130.8	92.1	33.6	21.1	9.2	2.6	58.5	10.6	1.9	8.6	17.2	17.6	38.7
1969	145.5	102.9	37.7	24.4	9.6	2.8	65.2	12.9	2.4	10.4	18.9	18.9	42.6
1970	148.1	106.7	40.3	25.4	11.1	2.8	66.4	14.3	2.7	11.6	20.2	16.2	41.4
1971	167.5	111.7	42.7	27.1	11.9	2.7	69.1	14.9	2.8	12.1	19.4	18.4	55.8
1972	195.7	126.1	47.2	30.1	13.1	3.1	78.9	16.5	3.5	13.1	21.3	21.8	69.7
1973	225.4	150.0	55.0	35.5	15.0	3.5	95.1	19.8	3.5	16.3	25.9	26.6	75.3
1974	231.5	165.6	61.2	38.3	16.5	5.2	104.3	22.9	3.9	19.0	30.5	26.3	66.0
1975	231.7	169.0	61.4	35.6	17.1	7.4	107.6	23.5	3.6	19.9	31.1	25.2	62.7
1976	269.6	187.2	65.9	35.9	20.0	8.6	121.2	27.2	4.4	22.8	33.9	30.0	82.5
1977	333.5	223.2	74.6	39.9	21.5	11.5	148.7	33.1	5.7	27.5	39.2	39.3	110.3
1978	403.6	272.0	91.4	49.7	24.1	15.4	180.6	41.8	7.6	34.2	47.4	47.3	131.6
1979	464.0	323.0	114.9	65.7	27.5	19.0	208.1	49.9	10.2	39.8	55.8	53.6	141.0
1980	473.5	350.3	133.9	73.7	30.2	27.4	216.4	58.9	12.5	46.4	60.4	48.4	123.2
1981	528.1	405.4	164.6	86.3	33.0	42.5	240.9	69.5	17.1	52.3	65.2	50.6	122.6
1982	515.6	409.9	175.0	94.5	32.5	44.8	234.9	72.7	18.9	53.9	62.2	46.8	105.7
1983	552.0	399.4	152.7	90.5	28.7	30.0	246.7	82.0	23.9	58.1	58.2	53.7	152.5
1984	646.1	468.3	176.0	110.0	30.0	31.3	292.3	98.6	31.6	67.0	67.4	64.8	179.8
1985	688.9	502.0	193.3	128.0	30.6	27.9	308.7	104.2	33.7	70.5	71.7	69.7	186.9
1986	712.9	494.8	175.8	123.3	31.2	15.7	319.0	108.8	33.4	75.4	74.6	71.8	218.1
1987	722.9	495.4	172.1	126.0	26.5	13.1	323.3	109.8	35.8	74.0	75.9	70.4	227.6
1988	763.1	530.6	181.3	133.3	27.1	15.7	349.3	118.2	38.1	80.1	82.9	76.0	232.5
1989	797.5	566.2	192.3	142.7	29.4	14.4	373.9	127.1	43.3	83.8	91.5	71.2	231.3
1990	791.6	575.9	200.8	148.9	27.5	17.5	375.1	124.2	38.9	85.2	89.8	75.5	215.7
1991	738.5	547.3	181.7	126.1	31.6	17.1	365.6	122.6	38.1	84.5	86.4	79.5	191.2
1992	783.4	557.9	169.2	113.2	34.5	13.3	388.7	134.2	43.9	90.2	89.3	86.2	225.6
1993	855.7	604.1	176.4	119.2	32.8	16.6	427.7	141.6	48.6	93.0	97.9	99.9	251.6
1994	946.6	660.6	184.5	128.7	32.0	16.7	476.1	152.1	51.8	100.3	109.3	118.6	286.0
1995	1,012.5	727.7	201.3	143.8	33.9	16.3	526.4	173.0	64.9	108.1	123.8	126.2	284.8
1996	1,099.8	787.9	216.9	160.9	31.7	18.1	571.0	189.4	74.4	114.9	131.7	137.2	311.8
1997	1,188.6	860.7	240.2	177.3	33.5	22.7	620.5	206.6	81.1	125.5	138.6	152.0	327.9
1993: I	823.5	580.5	171.7	113.6	33.8	16.0	408.9	137.2	47.1	90.1	94.0	92.9	243.0
II	842.9	598.8	175.2	117.6	32.7	16.8	423.6	138.1	47.1	91.0	95.4	102.9	244.1
III	858.8	606.4	177.8	121.5	32.2	16.8	428.6	145.0	49.8	95.2	98.1	96.4	252.4
IV	897.5	630.6	180.7	124.2	32.5	16.6	449.9	146.0	50.5	95.5	104.1	107.5	266.8
1994: I	911.0	634.6	175.4	120.7	32.1	15.7	459.3	147.6	49.9	97.7	105.4	113.1	276.4
II	941.7	652.9	185.2	130.9	31.6	15.8	467.7	149.4	50.6	98.8	107.0	115.5	288.7
III	956.9	667.4	186.8	130.0	32.0	17.0	480.6	152.8	51.5	101.2	110.8	119.8	289.5
IV	977.0	687.5	190.7	133.2	32.4	18.1	496.8	158.5	55.1	103.4	114.0	126.1	289.5
1995: I	1,000.0	713.6	197.9	139.7	33.6	17.3	515.6	162.6	56.1	106.4	119.3	131.0	286.4
II	1,004.3	728.1	201.8	144.2	34.5	15.6	526.3	173.6	64.1	109.6	124.8	125.5	276.2
III	1,013.5	729.5	203.0	144.7	34.4	16.2	526.5	174.8	66.6	108.2	125.8	122.5	284.0
IV	1,032.1	739.5	202.2	146.6	33.2	16.0	537.2	181.1	72.8	108.3	125.3	125.8	292.6
1996: I	1,059.1	759.0	206.5	151.1	31.9	16.7	552.6	185.0	73.4	111.5	129.6	130.0	300.1
II	1,089.7	774.8	211.3	157.0	31.2	16.9	563.5	185.2	72.0	113.2	133.1	134.3	315.0
III	1,118.1	801.1	218.0	162.4	31.0	18.6	583.1	192.7	75.5	117.2	131.7	143.4	317.0
IV	1,132.2	816.8	232.1	173.2	32.9	20.3	584.8	194.6	76.8	117.8	132.3	141.2	315.3
1997: I	1,146.7	827.1	236.2	177.5	32.5	20.6	591.0	197.1	76.8	120.3	132.7	141.5	319.5
II	1,176.4	850.5	234.3	172.9	33.4	22.2	616.2	202.6	79.9	122.7	138.9	151.9	325.9
III	1,211.1	882.3	243.8	180.0	34.1	23.8	638.5	213.0	84.0	129.0	140.7	158.8	328.8
IV	1,220.1	882.8	246.4	178.9	34.1	24.3	636.4	213.6	83.7	129.9	142.1	155.9	337.4
1998: I	1,271.1	921.3	245.0	180.6	34.2	23.5	676.3	226.5	91.8	134.7	145.4	172.4	349.8
II	1,305.8	941.9	245.4	181.8	34.7	22.4	696.6	231.6	94.8	136.8	146.8	181.2	363.8
III	1,307.5	931.6	246.2	183.7	35.0	20.7	685.4	235.2	95.6	139.5	147.4	164.0	375.8

[1] Includes other items, not shown separately.

[2] Includes new computers and peripheral equipment only.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–19.—*Real private gross fixed investment by type, 1982–98*

[Billions of chained (1992) dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Private fixed investment	Nonresidential										Residential
		Total nonresidential	Structures				Producers' durable equipment					
			Total [1]	Nonresidential buildings including farm	Utilities	Mining exploration, shafts, and wells	Total [1]	Information processing and related equipment			Transportation and related equipment	
								Total	Computers and peripheral equipment [2]	Other	Industrial equipment	
1982	610.4	464.3	207.2	126.6	39.5	32.2	260.3	54.5	4.7	67.0	85.5	63.7	140.1
1983	654.2	456.4	185.7	117.6	34.2	26.7	272.4	63.4	7.1	70.4	78.5	71.7	197.6
1984	762.4	535.4	212.2	137.6	35.4	30.3	324.6	79.8	11.6	79.0	89.9	85.1	226.4
1985	799.3	568.4	227.8	155.2	35.6	27.0	342.4	88.0	14.5	81.9	94.1	88.4	229.5
1986	805.0	548.5	203.3	144.5	36.5	15.8	345.9	94.1	16.7	84.6	93.5	85.6	257.0
1987	799.4	542.4	195.9	142.4	30.7	15.5	346.9	97.5	21.0	80.2	91.1	82.1	257.6
1988	818.3	566.0	196.8	145.3	30.0	15.8	369.2	106.6	24.0	85.7	95.3	87.1	252.5
1989	832.0	588.8	201.2	150.2	30.9	13.9	387.6	116.2	29.4	88.1	101.5	78.9	243.2
1990	805.8	585.2	203.3	152.0	28.1	16.1	381.9	116.2	29.4	88.2	95.0	81.2	220.6
1991	741.3	547.7	181.6	126.9	32.0	15.7	366.2	117.8	32.4	85.9	88.3	81.7	193.4
1992	783.4	557.9	169.2	113.2	34.5	13.3	388.7	134.2	43.9	90.2	89.3	86.2	225.6
1993	842.8	600.2	170.8	115.3	31.8	16.0	429.6	147.9	56.1	92.3	96.5	98.3	242.6
1994	915.5	648.4	172.5	119.9	29.9	15.8	476.8	165.1	67.2	99.4	105.5	113.2	267.0
1995	966.0	710.6	180.7	128.8	30.6	14.4	531.7	201.5	100.8	108.1	115.4	119.4	256.8
1996	1,050.6	776.6	189.7	141.0	27.8	15.3	589.8	245.4	151.3	115.4	120.5	127.6	275.9
1997	1,138.0	859.4	203.2	150.5	28.7	17.9	660.9	298.0	214.8	126.6	125.9	140.3	282.8
1993:I	814.8	577.8	168.0	111.3	33.4	15.2	409.8	140.5	51.0	89.6	93.4	91.9	237.0
II	831.1	595.1	170.3	114.4	31.7	16.2	424.9	143.2	53.2	90.3	94.2	101.5	236.1
III	844.5	602.3	171.7	117.1	31.0	16.4	430.7	152.5	58.4	94.6	96.5	94.8	242.2
IV	880.8	625.6	173.1	118.5	31.0	16.2	452.9	155.5	61.7	94.8	102.0	105.2	255.1
1994:I	887.8	626.2	166.3	114.3	30.3	15.1	460.6	158.1	62.2	96.8	102.8	108.8	261.3
II	913.2	641.2	174.5	123.1	29.6	15.1	467.3	160.8	64.1	97.8	103.8	110.0	271.5
III	922.7	653.2	174.0	120.6	29.8	16.2	480.0	166.1	67.1	100.2	106.7	113.5	269.4
IV	938.5	672.9	175.0	121.8	29.8	16.7	499.1	175.6	75.3	102.8	108.9	120.5	265.9
1995:I	957.1	698.4	179.5	126.1	30.7	15.7	520.4	183.7	80.4	106.1	113.2	125.3	259.9
II	957.8	710.2	181.7	129.5	31.3	13.9	529.9	199.2	95.2	109.2	116.4	119.1	249.5
III	965.8	711.7	181.5	129.3	30.9	14.2	531.8	205.2	105.3	108.2	116.6	115.3	255.6
IV	983.1	722.3	179.8	130.4	29.6	13.9	544.8	217.7	122.1	108.7	115.6	118.0	262.1
1996:I	1,011.4	744.8	182.6	133.9	28.3	14.4	565.0	229.5	133.6	111.9	119.1	121.9	268.0
II	1,043.5	764.4	185.9	138.3	27.5	14.4	581.6	238.0	142.6	113.7	122.0	125.0	280.2
III	1,067.1	790.1	189.9	141.6	27.1	15.6	604.0	253.1	158.5	117.9	120.4	132.7	279.0
IV	1,080.4	807.0	200.6	150.2	28.4	16.7	608.8	260.9	170.7	118.2	120.6	130.8	276.3
1997:I	1,096.0	820.9	202.5	152.8	28.1	16.6	621.0	271.8	182.5	121.1	120.8	131.1	278.4
II	1,127.0	848.2	199.3	147.8	28.6	17.6	653.8	288.1	203.9	123.7	126.4	140.5	282.5
III	1,159.3	882.2	205.2	152.0	29.1	18.6	682.6	311.5	229.9	130.0	127.7	145.9	282.3
IV	1,169.5	886.2	205.7	149.5	29.2	18.9	686.4	320.7	242.9	131.5	128.6	143.8	287.9
1998:I	1,224.9	931.9	203.1	150.1	29.2	17.9	738.8	353.4	292.2	136.7	131.5	159.6	298.5
II	1,264.1	960.4	201.9	149.8	29.5	17.0	771.3	376.8	331.5	139.7	132.5	167.9	309.1
III	1,270.9	958.7	202.0	150.1	29.7	16.4	769.3	399.6	370.5	142.8	133.1	151.7	316.5

[1] Includes other items, not shown separately.
[2] Includes new computers and peripheral equipment only.

Source: Department of Commerce, Bureau of Economic Analysis.

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TABLE B–20.—*Government consumption expenditures and gross investment by type, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Government consumption expenditures and gross investment												
	Total	Federal								State and local			
		Total	National defense			Nondefense				Total	Consumption expenditures	Gross investment	
			Total	Consumption expenditures	Gross investment		Consumption expenditures	Gross investment				Structures	Equipment
					Structures	Equipment			Structures	Equipment			
1959	112.0	67.2	55.7	42.0	2.5	11.2	11.5	9.9	1.5	0.2	44.8	30.9	12.8	1.1
1960	113.2	65.6	54.9	42.5	2.2	10.1	10.8	8.8	1.7	.3	47.6	33.7	12.7	1.2
1961	120.9	69.1	57.7	43.9	2.4	11.5	11.	9.0	1.9	.5	51.8	36.7	13.8	1.2
1962	131.4	76.5	62.3	47.8	2.0	12.5	14.2	11.3	2.1	.8	55.0	39.1	14.5	1.3
1963	137.7	78.1	62.2	49.6	1.6	11.0	15.9	12.4	2.3	1.1	59.6	42.2	16.0	1.5
1964	144.4	79.4	61.3	49.9	1.3	10.2	18.1	14.0	2.5	1.6	65.0	46.0	17.2	1.7
1965	153.0	81.8	62.0	52.0	1.1	8.9	19.7	15.1	2.8	1.8	71.2	50.5	19.0	1.8
1966	172.6	94.1	73.4	61.2	1.3	11.0	20.7	15.9	2.8	2.0	79.5	56.5	21.0	2.0
1967	194.6	106.6	85.5	71.3	1.2	13.0	21.0	17.0	2.2	1.8	88.1	62.9	23.0	2.2
1968	212.1	113.8	92.0	78.9	1.2	11.8	21.8	18.2	2.1	1.6	98.3	70.8	25.2	2.3
1969	223.8	115.8	92.4	80.0	1.5	10.9	23.4	20.0	1.9	1.5	108.0	79.8	25.6	2.6
1970	236.1	115.9	90.6	78.6	1.3	10.7	25.3	21.9	2.1	1.3	120.2	91.6	25.8	2.8
1971	249.9	117.1	88.7	79.2	1.8	7.7	28.3	24.6	2.5	1.3	132.8	102.9	27.0	2.9
1972	268.9	125.1	93.2	82.3	1.8	9.1	31.9	27.8	2.7	1.3	143.8	113.4	27.1	3.3
1973	287.6	128.2	94.7	83.7	2.1	8.9	33.5	29.2	3.1	1.2	159.4	126.4	29.1	3.8
1974	323.2	139.9	101.9	90.1	2.2	9.7	38.0	33.2	3.4	1.4	183.3	141.0	34.7	4.6
1975	362.6	154.5	110.9	97.0	2.3	11.6	43.6	38.0	4.1	1.4	208.1	164.9	38.1	5.1
1976	385.9	162.7	116.1	101.3	2.1	12.6	46.6	40.4	4.6	1.6	223.1	179.7	38.1	5.3
1977	416.9	178.4	125.8	109.6	2.4	13.8	52.6	45.7	5.0	1.9	238.5	196.1	36.9	5.4
1978	457.9	194.4	135.6	118.4	2.5	14.6	58.9	50.4	6.1	2.3	263.4	214.5	42.8	6.1
1979	507.1	215.0	151.2	130.7	2.5	18.0	63.8	55.2	6.3	2.4	292.0	235.9	49.0	7.1
1980	572.8	248.4	174.2	150.5	3.2	20.1	74.2	64.3	7.1	2.9	324.4	261.3	55.1	8.1
1981	633.4	284.1	202.0	174.3	3.2	24.5	82.2	71.7	7.7	2.8	349.2	285.3	55.4	8.5
1982	684.8	313.2	230.9	197.6	4.0	29.4	82.3	72.3	6.8	3.2	371.6	307.9	54.2	9.4
1983	735.7	344.5	255.0	214.9	4.8	35.4	89.4	78.2	6.7	4.5	391.2	326.2	54.2	10.8
1984	796.6	372.6	282.7	236.3	4.9	41.5	89.9	77.9	7.0	5.0	424.0	350.8	60.5	12.7
1985	875.0	410.1	312.4	257.6	6.2	48.5	97.7	84.9	7.3	5.4	464.9	382.6	67.6	14.8
1986	938.5	435.2	332.4	272.7	6.8	52.9	102.9	89.7	8.0	5.2	503.3	412.7	74.2	16.4
1987	992.8	455.7	350.4	287.6	7.7	55.1	105.3	90.7	9.0	5.6	537.2	441.1	78.8	17.2
1988	1,032.0	457.3	354.0	297.9	7.4	48.7	103.3	88.9	6.8	6.6	574.7	471.3	84.8	18.6
1989	1,095.1	477.2	360.6	303.3	6.4	51.0	116.7	101.5	6.9	7.9	617.9	507.2	88.7	21.9
1990	1,176.1	503.6	373.1	312.7	6.1	54.3	130.4	113.9	8.0	8.6	672.6	550.1	98.5	23.9
1991	1,225.9	522.6	383.5	325.4	4.6	53.5	139.1	120.6	9.2	9.3	703.4	579.4	100.5	23.4
1992	1,263.8	528.0	375.8	319.7	5.2	50.9	152.2	131.4	10.3	10.5	735.8	603.6	108.1	24.0
1993	1,283.4	518.3	360.7	311.1	5.1	44.5	157.7	136.2	11.2	10.2	765.0	631.6	108.7	24.7
1994	1,313.0	510.2	349.2	301.6	5.8	41.8	161.0	141.6	10.4	9.0	802.8	663.8	113.4	25.6
1995	1,356.4	509.1	344.4	298.2	6.3	39.9	164.7	144.7	10.9	9.1	847.3	695.2	123.1	29.0
1996	1,405.2	518.4	351.0	304.1	6.7	40.2	167.4	146.8	10.9	9.8	886.8	724.7	130.9	31.2
1997	1,454.6	520.2	346.0	306.3	5.7	34.0	174.3	154.2	10.0	10.0	934.4	758.8	142.4	33.2
1993:I	1,271.5	521.3	363.6	312.4	4.8	46.4	157.7	134.7	11.5	11.5	750.1	621.4	104.1	24.6
II	1,281.2	517.8	361.7	311.5	4.9	45.4	156.1	134.3	10.9	10.8	763.4	628.9	109.9	24.6
III	1,285.3	515.7	358.0	310.6	5.4	42.0	157.7	136.4	11.3	10.1	769.6	635.0	109.8	24.8
IV	1,295.5	518.5	359.4	309.8	5.3	44.3	159.1	139.4	11.1	8.6	777.0	641.1	111.1	24.8
1994:I	1,291.0	506.9	344.9	299.8	5.4	39.7	162.0	142.6	10.3	9.1	784.1	651.6	107.2	25.3
II	1,300.8	505.1	348.5	300.7	5.5	42.2	156.8	138.5	9.7	8.6	795.5	659.2	110.8	25.5
III	1,332.3	520.4	359.7	308.7	6.1	45.0	160.7	141.8	9.9	8.9	811.9	668.6	117.6	25.8
IV	1,328.0	508.3	343.6	297.3	5.1	40.2	164.7	143.5	11.8	9.4	819.6	676.0	117.9	25.8
1995:I	1,344.1	512.3	346.1	298.7	6.9	40.5	166.2	144.3	11.5	10.4	831.8	684.8	119.6	27.4
II	1,357.8	511.7	348.1	300.2	6.1	41.8	163.6	144.5	10.8	8.3	846.2	693.5	124.0	28.6
III	1,362.3	511.2	345.5	301.1	6.0	38.5	165.7	146.1	11.1	8.5	851.1	698.4	123.3	29.5
IV	1,361.4	501.2	337.9	292.7	6.5	38.7	163.3	143.8	10.2	9.3	860.2	704.2	125.6	30.4
1996:I	1,387.5	517.1	350.3	300.1	6.7	43.5	166.8	145.6	10.5	10.7	870.4	712.6	127.4	30.5
II	1,406.0	523.1	355.6	305.9	7.2	42.6	167.4	147.2	11.1	9.1	882.9	721.6	130.4	30.9
III	1,408.6	519.0	351.3	305.5	6.5	39.3	167.7	147.4	10.9	9.4	889.6	727.8	130.3	31.4
IV	1,418.8	514.6	346.7	304.7	6.4	35.6	167.9	147.0	11.0	9.9	904.2	736.7	135.6	31.9
1997:I	1,439.4	517.0	341.1	303.8	5.8	31.4	175.9	153.0	10.7	12.2	922.4	747.2	142.7	32.4
II	1,451.5	522.9	349.1	310.4	5.6	33.2	173.8	151.4	10.0	9.4	928.6	754.0	141.6	32.9
III	1,459.5	521.0	347.1	306.0	5.7	35.4	173.9	154.0	10.8	9.1	938.5	762.2	142.8	33.4
IV	1,468.1	520.1	346.5	304.8	5.7	36.1	173.6	155.3	8.7	9.6	947.9	771.5	142.6	33.9
1998:I	1,464.9	511.6	331.6	293.3	5.4	32.9	180.0	157.6	10.6	11.8	953.3	776.7	142.0	34.6
II	1,481.2	520.7	339.8	303.0	4.9	31.9	180.9	106.9	10.4	9.6	960.4	784.7	140.6	35.2
III	1,492.3	519.4	343.7	302.9	5.5	35.4	175.7	155.8	11.3	8.6	972.9	793.9	143.2	35.8

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–21.—*Real government consumption expenditures and gross investment by type, 1982–98*

[Billions of chained (1992) dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Government consumption expenditures and gross investment													
	Total	Federal								State and local			
		Total	National defense				Nondefense				Total	Consumption expenditures	Gross investment	
			Total	Consumption expenditures	Gross investment		Total	Consumption expenditures	Gross investment				Structures	Equipment
					Structures	Equipment			Structures	Equipment				
1982	960.1	429.4	316.5	282.0	5.6	32.0	113.3	102.3	8.6	3.2	531.4	455.6	67.0	10.7
1983	987.3	452.7	334.6	293.3	6.6	37.0	118.5	105.9	8.4	4.7	534.9	458.2	66.3	12.1
1984	1,018.4	463.7	348.1	301.3	6.4	41.7	115.9	102.3	8.7	5.2	555.0	467.9	73.8	14.2
1985	1,080.1	495.6	374.1	318.2	7.9	48.6	121.8	107.4	8.9	5.7	584.7	487.8	80.9	16.4
1986	1,135.0	518.4	393.4	331.1	8.6	53.7	125.2	110.6	9.4	5.4	616.9	513.3	85.9	18.0
1987	1,165.9	534.4	409.2	341.1	9.2	58.4	125.3	109.2	10.3	5.9	631.8	525.5	87.8	18.8
1988	1,180.9	524.6	405.5	345.3	8.5	51.9	119.1	104.8	7.6	6.8	656.6	545.3	91.6	20.0
1989	1,213.9	531.5	401.6	340.9	6.9	53.8	130.1	114.8	7.4	7.9	682.6	566.3	93.5	23.0
1990	1,250.4	541.9	401.5	338.9	6.4	56.1	140.5	123.8	8.3	8.5	708.6	583.2	100.7	24.7
1991	1,258.0	539.4	397.5	338.7	4.7	54.1	142.0	123.6	9.3	9.2	718.7	593.8	101.3	23.6
1992	1,263.8	528.0	375.8	319.7	5.2	50.9	152.2	131.4	10.3	10.5	735.8	603.6	108.1	24.0
1993	1,252.1	505.7	354.4	306.0	4.7	43.8	151.2	129.9	11.0	10.3	746.4	615.8	106.1	24.5
1994	1,252.3	486.6	336.9	292.2	5.0	39.7	149.5	130.4	9.9	9.1	765.7	633.4	107.1	25.2
1995	1,254.5	470.6	323.5	281.1	5.4	36.9	146.9	127.5	9.9	9.4	783.9	644.0	111.5	28.6
1996	1,268.2	465.6	319.1	276.6	5.5	37.0	146.2	126.1	9.6	10.7	802.7	656.8	114.9	31.1
1997	1,285.0	458.0	308.9	272.4	4.5	31.9	148.6	128.7	8.6	11.6	827.1	672.3	121.0	34.3
1993:I	1,250.1	512.1	359.2	308.5	4.6	46.1	152.9	130.0	11.4	11.5	738.0	610.8	102.7	24.5
II	1,253.1	507.8	356.7	307.1	4.6	44.9	151.1	129.5	10.7	10.9	745.3	613.5	107.4	24.4
III	1,250.5	501.5	351.1	305.0	4.8	41.3	150.3	129.1	11.0	10.2	749.1	617.5	107.0	24.5
IV	1,254.7	501.3	350.8	303.2	4.7	42.9	150.4	130.8	10.8	8.7	753.4	621.5	107.2	24.7
1994:I	1,241.9	487.2	335.1	292.4	4.7	38.1	151.9	132.7	9.9	9.2	754.7	627.2	102.7	24.9
II	1,243.3	481.2	335.9	291.5	4.8	39.6	145.1	127.1	9.3	8.7	762.2	631.6	105.5	25.0
III	1,268.1	496.4	347.0	298.7	5.3	42.9	149.4	130.8	9.4	9.0	771.7	635.9	110.6	25.2
IV	1,255.8	481.7	329.6	286.2	5.2	38.1	151.7	131.1	11.1	9.6	774.1	639.0	109.6	25.4
1995:I	1,256.2	478.6	328.3	284.3	5.9	38.0	150.0	128.8	10.7	10.6	777.6	641.0	109.6	27.0
II	1,259.9	476.2	328.4	284.6	5.2	38.6	147.6	129.0	9.8	8.5	783.7	642.8	112.7	28.2
III	1,257.6	473.1	323.9	283.1	5.0	35.7	148.8	129.9	10.0	8.8	784.5	644.3	111.2	29.1
IV	1,244.5	454.6	313.3	272.4	5.4	35.4	141.1	122.3	9.2	9.7	790.0	647.8	112.3	30.0
1996:I	1,254.5	463.5	318.7	275.0	5.6	38.1	144.5	124.0	9.4	11.3	791.0	648.1	112.9	30.2
II	1,276.2	472.6	325.0	279.3	6.0	39.7	147.3	127.5	9.9	9.9	803.6	657.9	115.1	30.8
III	1,271.1	467.0	319.8	277.4	5.3	37.1	146.8	127.0	9.6	10.3	804.2	659.1	114.0	31.4
IV	1,271.2	459.5	313.0	274.6	5.1	33.1	146.1	125.7	9.6	11.0	811.8	662.2	117.8	32.1
1997:I	1,277.7	456.3	305.0	270.8	4.7	29.2	150.7	128.5	9.3	13.8	821.5	665.9	122.7	33.0
II	1,284.4	460.4	311.7	276.2	4.4	30.9	148.2	129.0	8.5	10.8	824.2	670.1	120.6	33.9
III	1,288.9	458.9	310.2	272.3	4.5	33.3	148.2	128.5	9.2	10.6	830.1	674.7	121.0	34.8
IV	1,289.2	456.5	308.7	270.0	4.5	34.2	147.3	129.0	7.3	11.3	832.9	678.5	119.5	35.5
1998:I	1,283.0	446.1	293.3	257.9	4.3	31.0	151.9	130.0	8.8	14.1	837.1	682.8	118.5	36.7
II	1,294.8	454.1	300.3	266.1	3.8	30.3	152.9	132.9	8.6	11.7	840.9	687.3	117.0	37.7
III	1,299.6	452.5	303.5	265.1	4.3	34.2	148.4	128.4	9.3	10.7	847.3	691.6	118.2	38.8

Note.—See Table B–2 for data for total Government consumption expenditures and gross investment for 1959–81.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–22.—*Inventories and final sales of domestic business, 1959–98*

[Billions of dollars, except as noted; seasonally adjusted]

Quarter	Inventories[1]							Final sales of domestic business[3]	Ratio of inventories to final sales of domestic business	
	Total[2]	Farm	Nonfarm							
			Total[2]	Manufacturing	Wholesale trade	Retail trade	Other		Total	Nonfarm
Fourth quarter:										
1959	130.7	31.8	98.9	51.6	18.3	20.0	9.0	36.5	3.58	2.71
1960	134.4	32.6	101.8	52.8	18.6	21.4	8.9	37.7	3.57	2.70
1961	137.6	34.2	103.4	54.3	19.1	20.9	9.2	39.5	3.48	2.62
1962	145.2	36.2	109.0	57.6	19.9	22.3	9.2	41.8	3.47	2.61
1963	147.6	33.3	114.4	59.6	21.3	23.6	9.8	44.5	3.32	2.57
1964	153.3	31.9	121.4	63.2	22.7	24.9	10.6	47.4	3.23	2.56
1965	168.1	36.2	131.9	68.2	24.3	27.7	11.7	52.5	3.20	2.51
1966	185.5	36.8	148.6	78.3	27.7	30.1	12.5	55.6	3.33	2.67
1967	197.7	36.3	161.4	85.2	29.9	31.1	15.3	59.2	3.34	2.73
1968	213.2	39.5	173.8	91.4	31.7	34.4	16.3	65.1	3.28	2.67
1969	232.7	42.7	189.9	99.0	35.2	37.7	18.1	69.1	3.37	2.75
1970	240.9	41.2	199.7	102.8	39.0	38.7	19.3	72.9	3.31	2.74
1971	259.7	48.2	211.5	103.5	42.1	44.9	20.9	79.4	3.27	2.66
1972	287.8	58.9	228.8	109.4	46.0	50.0	23.4	88.5	3.25	2.59
1973	343.1	75.3	267.8	125.1	54.8	58.7	29.2	97.5	3.52	2.75
1974	396.3	66.0	330.3	158.2	69.8	64.2	38.0	105.4	3.76	3.13
1975	408.3	70.0	338.4	164.5	69.1	64.7	39.8	118.0	3.46	2.87
1976	441.7	66.6	375.1	181.1	77.2	73.3	43.5	129.7	3.40	2.89
1977	492.8	71.9	421.0	202.8	86.6	81.2	50.4	145.0	3.40	2.90
1978	580.6	96.6	484.0	228.4	101.9	94.5	59.1	167.6	3.46	2.89
1979	675.5	113.6	561.9	268.7	120.5	105.3	67.5	186.4	3.62	3.01
1980	736.0	113.3	622.8	296.5	138.5	113.7	74.0	204.8	3.59	3.04
1981	781.9	103.7	678.2	318.1	151.4	123.9	84.9	221.8	3.53	3.06
1982	767.2	109.2	658.0	299.5	150.3	123.5	84.6	232.8	3.29	2.83
1983	786.7	105.6	681.1	302.6	154.1	138.0	86.4	255.4	3.08	2.67
1984	860.0	108.5	751.5	333.4	169.0	157.3	91.8	276.7	3.11	2.72
1985	875.0	105.9	769.1	325.3	173.4	171.9	98.4	297.7	2.94	2.58
1986	862.5	94.3	768.2	314.6	177.2	176.8	99.5	315.7	2.73	2.43
1987	927.4	97.9	829.5	332.9	190.6	199.5	106.4	333.1	2.78	2.49
1988	992.8	102.0	890.8	358.8	208.5	213.8	109.6	362.8	2.74	2.46
1989	1,044.6	103.6	941.0	382.1	218.4	232.7	107.8	384.9	2.71	2.44
1990	1,082.4	108.3	974.1	399.7	232.4	237.1	104.8	403.4	2.68	2.41
1991	1,058.1	97.2	961.0	383.4	235.5	240.1	102.0	413.1	2.56	2.33
1992	1,077.9	104.9	973.1	375.5	245.3	249.4	103.0	441.9	2.44	2.20
1993: I	1,099.5	110.1	989.3	378.4	247.8	260.4	102.8	443.5	2.48	2.23
II	1,102.1	105.6	996.5	381.9	248.4	262.2	103.9	449.6	2.45	2.22
III	1,104.9	101.3	1,003.7	383.5	251.9	263.3	105.0	454.1	2.43	2.21
IV	1,114.8	101.5	1,013.4	384.0	254.5	267.3	107.6	463.6	2.40	2.19
1994: I	1,132.2	106.6	1,025.6	388.9	255.9	270.9	110.0	467.6	2.42	2.19
II	1,150.0	100.3	1,049.7	396.4	262.5	279.3	111.6	474.5	2.42	2.21
III	1,168.9	99.9	1,069.0	403.9	268.2	284.2	112.6	482.2	2.42	2.22
IV	1,200.6	104.1	1,096.5	413.3	277.5	290.7	115.0	489.2	2.45	2.24
1995: I	1,235.5	104.4	1,131.1	426.9	287.3	298.2	118.7	494.6	2.50	2.29
II	1,247.7	99.1	1,148.6	432.4	292.6	304.3	119.2	500.0	2.50	2.30
III	1,251.2	95.4	1,155.8	435.0	296.6	305.6	118.6	507.9	2.46	2.28
IV	1,261.9	98.3	1,163.6	434.8	298.9	307.8	122.1	514.1	2.45	2.26
1996: I	1,266.6	98.4	1,168.2	438.3	300.9	304.9	124.1	522.1	2.43	2.24
II	1,280.2	107.0	1,173.2	437.0	302.4	309.4	124.4	531.3	2.41	2.21
III	1,292.7	109.2	1,183.5	441.4	300.5	315.6	126.0	535.0	2.42	2.21
IV	1,299.6	104.4	1,195.2	447.1	301.5	316.7	129.8	545.2	2.38	2.19
1997: I	1,309.8	108.4	1,201.4	449.3	306.7	316.3	129.0	553.0	2.37	2.17
II	1,323.3	109.2	1,214.1	454.1	311.9	316.3	131.9	559.1	2.37	2.17
III	1,339.9	110.5	1,229.4	458.6	317.8	318.1	134.8	569.7	2.35	2.16
IV	1,348.4	109.1	1,239.3	462.0	321.0	321.4	135.0	574.6	2.35	2.16
1998: I	1,363.6	110.8	1,252.8	466.1	324.8	325.3	136.6	582.3	2.34	2.15
II	1,366.5	108.9	1,257.6	469.1	326.0	323.6	138.9	590.6	2.31	2.13
III	1,369.1	103.9	1,265.2	471.1	332.0	323.0	139.1	596.0	2.30	2.12

[1] Inventories at end of quarter. Quarter-to-quarter change calculated from this table is not the current-dollar change in business inventories (CBI) component of GDP. The former is the difference between two inventory stocks, each valued at their respective end-of-quarter prices. The latter is the change in the physical volume of inventories valued at average prices of the quarter. In addition, changes calculated from this table are at quarterly rates, whereas CBI is stated at annual rates.

[2] Inventories of construction establishments are included in "other" nonfarm inventories.

[3] Quarterly totals at monthly rates. Final sales of domestic business equals final sales of domestic product less gross product of households and institutions and of general government and includes a small amount of final sales by farms.

Note.—The industry classification of inventories is on an establishment basis. Estimates for nonfarm industries other than manufacturing and trade for 1986 and earlier periods are based on the 1972 Standard Industrial Classification (SIC). Manufacturing estimates for 1981 and earlier periods and trade estimates for 1966 and earlier periods are based on the 1972 SIC; later estimates for these industries are based on the 1987 SIC. The resulting discontinuities are small.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–23.—*Real inventories and final sales of domestic business, 1959–98*

[Billions of chained (1992) dollars, except as noted; seasonally adjusted]

Quarter	Inventories[1]							Final sales of domestic business[3]	Ratio of inventories to final sales of domestic business	
	Total[2]	Farm	Nonfarm							
			Total[2]	Manufacturing	Wholesale trade	Retail trade	Other		Total	Nonfarm
Fourth quarter:										
1959	400.8	89.1	303.6	148.2	56.5	59.4	37.6	144.3	2.78	2.10
1960	411.3	90.7	312.4	150.6	57.9	63.6	38.3	147.0	2.80	2.13
1961	419.9	92.9	318.6	155.1	59.3	62.3	40.1	153.5	2.74	2.08
1962	439.4	94.4	336.7	165.2	61.9	66.7	40.1	160.8	2.73	2.09
1963	457.2	95.7	353.1	171.5	66.3	70.3	42.2	169.5	2.70	2.08
1964	472.7	92.0	372.6	180.4	70.3	74.2	45.0	178.4	2.65	2.09
1965	503.0	94.4	400.3	192.6	74.7	81.7	48.4	194.2	2.59	2.06
1966	545.4	93.1	445.0	217.6	84.6	88.5	49.8	199.4	2.73	2.23
1967	577.5	95.6	474.5	234.4	91.0	88.4	56.9	206.4	2.80	2.30
1968	604.3	99.2	497.5	245.0	94.1	95.8	58.1	217.8	2.77	2.28
1969	631.3	99.2	524.8	256.0	100.6	102.3	71.4	221.7	2.85	2.37
1970	636.7	96.8	533.0	256.0	108.0	102.4	62.6	224.0	2.84	2.38
1971	659.0	100.8	551.1	253.1	113.8	116.1	64.9	234.4	2.81	2.35
1972	683.7	101.1	576.5	259.8	119.0	124.9	69.9	252.7	2.71	2.28
1973	721.5	102.5	615.0	277.7	122.4	134.8	77.4	261.1	2.76	2.36
1974	744.8	97.8	646.8	296.8	133.0	132.9	80.8	254.6	2.93	2.54
1975	734.6	103.9	628.3	289.7	127.5	126.3	81.5	265.6	2.77	2.37
1976	764.4	102.5	660.4	303.4	135.9	136.0	81.7	277.5	2.75	2.38
1977	803.2	109.3	692.1	311.8	146.5	143.7	87.1	291.7	2.75	2.37
1978	846.6	111.8	733.6	325.8	158.8	153.1	93.2	311.9	2.71	2.35
1979	869.9	115.7	752.8	338.5	166.3	153.1	91.5	319.3	2.72	2.36
1980	859.7	109.0	751.3	338.9	171.3	148.9	88.7	319.9	2.69	2.35
1981	892.8	118.2	774.1	343.5	176.0	157.2	94.4	318.9	2.80	2.43
1982	877.2	125.5	751.3	329.5	174.1	153.3	91.7	319.2	2.75	2.35
1983	871.5	108.6	763.4	329.2	173.5	166.2	92.4	338.2	2.58	2.26
1984	946.8	115.0	832.4	358.4	189.6	186.4	96.7	355.7	2.66	2.34
1985	976.0	121.8	855.8	353.9	194.8	201.3	105.1	370.8	2.63	2.31
1986	988.1	120.2	868.2	349.7	201.9	204.4	111.6	384.3	2.57	2.26
1987	1,014.5	111.5	902.5	354.8	208.5	223.9	115.1	393.8	2.58	2.29
1988	1,026.2	98.9	927.2	364.3	217.8	231.3	113.7	411.7	2.49	2.25
1989	1,059.5	98.9	960.7	383.5	223.3	245.0	108.9	420.7	2.52	2.28
1990	1,069.9	101.4	968.4	390.1	231.3	243.5	103.4	421.8	2.54	2.30
1991	1,066.9	99.7	967.2	384.0	236.9	243.3	103.0	419.2	2.55	2.31
1992	1,073.9	104.7	969.2	374.8	244.7	247.2	102.6	438.1	2.45	2.21
1993: I	1,082.0	102.7	979.2	376.1	246.0	256.5	100.6	435.8	2.48	2.25
II	1,086.1	101.1	985.1	378.4	247.1	258.0	101.5	439.4	2.47	2.24
III	1,090.0	98.0	992.0	380.4	249.7	259.6	102.3	442.0	2.47	2.24
IV	1,096.0	97.4	998.7	380.9	250.2	263.0	104.6	448.2	2.45	2.23
1994: I	1,109.3	100.8	1,008.6	384.7	251.2	266.2	106.5	449.7	2.47	2.24
II	1,128.2	105.0	1,023.5	387.3	255.6	272.7	107.9	453.9	2.49	2.25
III	1,140.7	107.9	1,033.1	389.6	259.4	275.8	108.3	458.2	2.49	2.25
IV	1,156.6	109.1	1,047.7	392.0	265.7	279.9	110.1	461.9	2.50	2.27
1995: I	1,170.1	106.7	1,063.4	395.9	270.7	284.9	111.8	464.8	2.52	2.29
II	1,175.5	102.6	1,072.6	398.9	273.7	288.9	111.0	467.8	2.51	2.29
III	1,179.2	98.3	1,080.2	401.9	277.2	289.6	111.4	473.0	2.49	2.28
IV	1,184.2	98.1	1,085.4	403.2	278.7	290.3	113.2	476.9	2.48	2.28
1996: I	1,187.8	99.2	1,088.0	407.3	280.0	287.3	113.4	481.9	2.46	2.26
II	1,194.3	102.1	1,091.8	407.6	280.7	290.4	113.6	488.4	2.45	2.24
III	1,206.2	104.4	1,101.5	411.4	280.3	295.3	114.4	489.6	2.46	2.25
IV	1,214.3	105.2	1,108.7	415.2	282.8	296.1	114.5	496.9	2.44	2.23
1997: I	1,228.3	105.1	1,122.7	420.2	288.6	296.0	118.0	500.8	2.45	2.24
II	1,248.1	106.8	1,140.7	426.8	295.6	297.5	120.8	504.3	2.47	2.26
III	1,260.8	108.6	1,151.7	430.8	299.8	298.7	122.4	512.3	2.46	2.25
IV	1,277.5	109.6	1,167.4	435.2	304.9	302.9	124.4	515.5	2.48	2.26
1998: I	1,300.3	110.9	1,188.9	442.8	311.6	307.3	127.3	521.6	2.49	2.28
II	1,309.9	113.1	1,196.4	448.7	313.5	304.3	129.9	528.4	2.48	2.26
III	1,323.8	115.3	1,208.1	453.5	320.9	302.9	130.9	532.2	2.49	2.27

[1] Inventories at end of quarter. Quarter-to-quarter changes calculated from this table are at quarterly rates, whereas the change in business inventories component of GDP is stated at annual rates.

[2] Inventories of construction establishments are included in "other" nonfarm inventories.

[3] Quarterly totals at monthly rates. Final sales of domestic business equals final sales of domestic product less gross product of households and institutions and of general government and includes a small amount of final sales by farms.

Note.—The industry classification of inventories is on an establishment basis. Estimates for nonfarm industries other than manufacturing and trade for 1986 and earlier periods are based on the 1972 Standard Industrial Classification (SIC). Manufacturing estimates for 1981 and earlier periods and trade estimates for 1966 and earlier periods are based on the 1972 SIC; later estimates for these industries are based on the 1987 SIC. The resulting discontinuities are small.

See *Survey of Current Business*, Table 5.13, for detailed information on calculation of the chained (1992) dollar inventory series.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–24.—*Foreign transactions in the national income and product accounts, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Receipts from rest of the world					Payments to rest of the world									
		Exports of goods and services			Receipts of factor income		Imports of goods and services			Payments of factor income	Transfer payments (net)				Net foreign investment
	Total[1]	Total	Goods[2]	Services[2]		Total	Total	Goods[2]	Services[2]		Total	From persons (net)	From government (net)	From business	
1959	25.0	20.6	16.5	4.2	4.3	25.0	22.3	15.3	7.0	1.5	2.4	0.4	1.8	0.1	–1.2
1960	30.2	25.3	20.5	4.8	5.0	30.2	22.8	15.2	7.6	1.8	2.4	.5	1.9	.1	3.2
1961	31.4	26.0	20.9	5.1	5.4	31.4	22.7	15.1	7.6	1.8	2.7	.5	2.1	.1	4.3
1962	33.5	27.4	21.7	5.7	6.1	33.5	25.0	16.9	8.1	1.8	2.8	.5	2.1	.1	3.9
1963	36.1	29.4	23.3	6.1	6.6	36.1	26.1	17.7	8.4	2.1	2.8	.6	2.1	.1	5.0
1964	41.0	33.6	26.7	6.9	7.4	41.0	28.1	19.4	8.7	2.4	3.0	.7	2.1	.2	7.5
1965	43.5	35.4	27.8	7.6	8.1	43.5	31.5	22.2	9.3	2.7	3.0	.8	2.1	.2	6.2
1966	47.2	38.9	30.7	8.2	8.3	47.2	37.1	26.3	10.7	3.1	3.2	.8	2.2	.2	3.9
1967	50.2	41.4	32.2	9.2	8.9	50.2	39.9	27.8	12.2	3.4	3.4	1.0	2.1	.2	3.5
1968	55.6	45.3	35.3	10.0	10.3	55.6	46.6	33.9	12.6	4.1	3.2	1.0	1.9	.3	1.7
1969	61.2	49.3	38.3	11.0	11.9	61.2	50.5	36.8	13.7	5.8	3.2	1.1	1.8	.3	1.8
1970	70.8	57.0	44.5	12.4	13.0	70.8	55.8	40.9	14.9	6.6	3.6	1.2	2.0	.4	4.9
1971	74.2	59.3	45.6	13.8	14.1	74.2	62.3	46.6	15.8	6.4	4.1	1.3	2.4	.4	1.3
1972	83.4	66.2	51.8	14.4	16.4	83.4	74.2	56.9	17.3	7.7	4.3	1.3	2.5	.5	–2.9
1973	115.6	91.8	73.9	17.8	23.8	115.6	91.2	71.8	19.3	11.1	4.6	1.4	2.5	.7	8.7
1974	152.6	124.3	101.0	23.3	30.3	152.6	127.5	104.5	22.9	14.6	5.4	1.2	3.2	1.0	5.1
1975	164.4	136.3	109.6	26.7	28.2	164.4	122.7	99.0	23.7	14.9	5.4	1.2	3.5	.7	21.4
1976	181.7	148.9	117.8	31.1	32.9	181.7	151.1	124.6	26.5	15.7	6.0	1.2	3.7	1.1	8.9
1977	196.6	158.8	123.7	35.1	37.9	196.6	182.4	152.6	29.8	17.2	6.0	1.2	3.4	1.4	–9.0
1978	233.5	186.1	145.4	40.7	47.4	233.5	212.3	177.4	34.8	25.3	6.4	1.3	3.8	1.4	–10.4
1979	300.3	228.7	184.0	44.7	70.4	300.3	252.7	212.8	39.9	37.5	7.5	1.4	4.1	2.0	2.6
1980	361.9	278.9	225.8	53.2	81.8	361.9	293.8	248.6	45.3	46.5	9.0	1.6	5.0	2.4	12.5
1981	399.5	302.8	239.1	63.7	95.6	399.5	317.8	267.8	49.9	60.9	13.4	5.2	5.0	3.2	7.4
1982	379.5	282.6	215.0	67.6	96.9	379.5	303.2	250.5	52.6	65.8	16.7	6.2	7.0	3.4	–6.1
1983	374.6	277.0	207.3	69.7	97.6	374.6	328.6	272.7	56.0	65.6	17.7	6.5	7.8	3.4	–37.3
1984	421.8	303.1	225.6	77.5	118.7	421.8	405.1	336.3	68.8	87.6	20.6	7.4	9.7	3.5	–91.5
1985	411.1	303.0	222.2	80.8	108.1	411.1	417.2	343.3	73.9	87.7	23.1	7.8	12.2	3.1	–116.9
1986	427.1	320.7	226.0	94.7	106.5	427.1	452.2	370.0	82.2	93.6	24.3	8.1	12.9	3.3	–142.9
1987	481.8	365.7	257.5	108.2	116.0	481.8	507.9	414.8	93.1	107.1	23.3	8.7	11.2	3.3	–156.4
1988	591.9	447.2	325.8	121.4	144.7	591.9	553.2	452.1	101.1	131.7	25.1	9.1	11.4	4.6	–118.1
1989	678.3	509.3	371.7	137.6	169.0	678.3	589.7	484.5	105.3	154.8	26.1	9.6	11.4	5.1	–92.4
1990	734.8	557.3	398.5	158.8	177.5	734.8	628.6	508.0	120.6	156.4	28.4	9.9	13.3	5.2	–78.6
1991	757.9	601.8	426.4	175.4	156.2	757.9	622.3	500.7	121.6	140.5	–12.1	10.4	–27.9	5.4	7.3
1992	777.3	639.4	448.7	190.7	137.9	777.3	668.0	544.9	124.1	126.8	32.0	9.6	16.6	5.8	–50.5
1993	809.4	658.6	459.7	198.9	150.8	809.4	719.3	592.8	126.5	132.1	36.6	13.3	17.3	6.0	–78.6
1994	897.7	721.2	509.6	211.6	176.5	897.7	812.1	676.8	135.3	168.3	37.3	14.2	16.4	6.8	–120.0
1995	1,044.6	819.4	583.8	235.6	225.2	1,044.6	903.3	757.6	145.7	207.6	34.2	15.7	11.4	7.1	–100.6
1996	1,109.3	873.8	618.3	255.5	235.5	1,109.3	965.0	809.0	156.0	223.1	40.4	16.9	16.2	7.3	–119.2
1997	1,230.9	965.4	688.3	277.1	265.5	1,230.9	1,058.8	888.3	170.4	273.5	39.5	18.9	12.7	8.0	–140.9
1993: I	792.7	647.1	451.2	195.8	145.6	792.7	693.7	570.8	122.9	122.1	31.1	13.1	12.6	5.5	–54.2
II	810.0	661.2	462.2	199.0	148.9	810.0	718.7	593.2	125.4	132.7	33.6	13.1	14.8	5.7	–74.9
III	800.0	646.8	447.9	198.9	153.2	800.0	718.9	592.8	126.1	130.9	35.0	13.4	15.5	6.2	–84.9
IV	835.0	679.4	477.7	201.7	155.6	835.0	746.0	614.4	131.6	142.7	46.6	13.7	26.2	6.7	–100.4
1994: I	839.6	678.5	475.7	202.8	161.1	839.6	755.1	622.4	132.8	144.2	31.9	14.0	11.2	6.7	–91.6
II	878.3	710.1	499.2	210.9	168.3	878.3	797.9	663.8	134.1	159.3	33.6	14.1	12.9	6.6	–112.5
III	914.4	732.6	518.9	213.7	181.9	914.4	836.0	699.2	136.9	176.1	36.5	14.2	15.7	6.7	–134.2
IV	958.2	763.7	544.6	219.0	194.6	958.2	859.2	721.7	137.5	193.5	47.3	14.4	25.8	7.1	–141.8
1995: I	1,004.7	787.8	563.1	224.7	216.9	1,004.7	882.5	740.3	142.2	198.4	34.5	15.2	11.9	7.4	–110.7
II	1,030.8	803.4	574.2	229.3	227.4	1,030.8	911.4	766.1	145.3	205.0	32.4	14.8	10.8	6.9	–118.0
III	1,059.7	835.1	593.3	241.7	224.6	1,059.7	909.6	762.5	147.1	216.2	34.0	15.6	11.2	7.2	–100.1
IV	1,083.1	851.5	604.8	246.7	231.6	1,083.1	909.9	761.6	148.2	210.9	35.9	17.2	11.6	7.0	–73.5
1996: I	1,086.3	856.6	609.9	246.7	229.7	1,086.3	932.3	780.2	152.1	210.0	41.8	15.8	19.0	7.0	–97.8
II	1,092.3	863.0	609.5	253.4	229.3	1,092.3	957.0	802.7	154.2	215.2	35.0	16.6	11.0	7.4	–114.9
III	1,096.1	861.4	612.6	248.9	234.7	1,096.1	976.9	818.3	158.6	229.5	35.9	16.6	11.8	7.4	–146.2
IV	1,162.4	914.2	641.2	273.0	248.2	1,162.4	993.8	834.8	159.0	237.6	48.9	18.5	22.8	7.6	–118.0
1997: I	1,183.3	930.2	661.4	268.8	253.1	1,183.3	1,023.5	859.1	164.4	255.6	35.1	18.0	9.5	7.6	–130.9
II	1,229.4	961.1	682.9	278.2	268.3	1,229.4	1,047.9	879.2	168.7	269.4	36.0	18.2	9.9	8.0	–123.9
III	1,256.0	981.7	700.2	281.5	274.3	1,256.0	1,076.4	902.7	173.6	283.0	37.6	19.5	9.9	8.1	–141.0
IV	1,254.9	988.8	708.9	279.7	266.3	1,254.9	1,087.4	912.4	174.9	285.9	49.4	19.8	21.5	8.1	–167.8
1998: I	1,243.6	973.3	694.5	278.8	270.3	1,243.6	1,097.1	920.9	176.2	285.1	37.0	19.2	9.9	7.9	–175.6
II	1,220.2	949.6	668.8	280.8	270.6	1,220.2	1,108.9	931.8	177.1	289.3	36.8	19.9	9.0	7.9	–214.8
III	1,201.2	936.2	663.3	272.9	265.0	1,201.2	1,101.7	924.7	177.0	292.1	39.1	20.0	11.2	8.0	–231.6

[1] Includes capital grants received by the United States (net), not shown separately. See Table B–32 for data

[2] Certain goods, primarily military equipment purchased and sold by the Federal Government, are included in services. Beginning with 1986, repairs and alterations of equipment were reclassified from goods to services.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–25.—*Real exports and imports of goods and services and receipts and payments of factor income, 1982–98*

[Billions of chained (1992) dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Exports of goods and services					Receipts of factor income	Imports of goods and services					Payments of factor income
	Total	Goods[1]			Services[1]		Total	Goods[1]			Services[1]	
		Total	Durable goods	Nondurable goods				Total	Durable goods	Nondurable goods		
1982	311.4	213.5	117.0	98.4	98.5	143.5	325.5	257.4	138.4	115.6	68.9	100.7
1983	303.3	207.3	114.6	94.4	96.8	138.2	366.6	292.4	166.8	123.1	74.4	95.9
1984	328.4	223.7	127.0	98.1	105.9	160.3	455.7	363.1	221.9	140.2	92.9	121.9
1985	337.3	231.7	137.3	95.3	106.1	140.5	485.2	385.9	244.1	142.0	99.7	116.8
1986	362.2	243.6	145.3	99.1	120.3	134.6	526.1	425.5	266.7	158.8	100.2	120.9
1987	402.0	270.5	165.7	105.0	133.4	141.9	558.2	445.2	278.5	166.8	113.1	133.0
1988	465.8	321.4	205.5	115.8	145.0	170.2	580.2	463.2	290.1	173.2	117.1	157.1
1989	520.2	361.7	236.7	124.9	158.7	189.9	603.0	482.7	302.6	180.1	120.2	176.7
1990	564.4	391.6	260.0	131.6	173.1	190.6	626.3	497.3	310.9	186.4	129.4	170.2
1991	599.9	419.2	279.6	139.6	180.8	161.1	622.2	497.1	312.7	184.4	125.3	145.7
1992	639.4	448.7	300.9	147.8	190.7	137.9	669.0	544.9	346.4	198.4	124.1	126.8
1993	658.2	463.7	317.5	146.2	194.5	147.3	728.4	602.0	389.4	212.5	126.5	128.8
1994	712.4	509.8	356.5	153.5	202.9	168.4	817.0	684.1	456.0	227.8	133.2	160.0
1995	792.6	573.7	410.9	164.1	219.5	209.9	889.0	749.7	512.3	237.2	139.7	191.9
1996	860.0	629.4	464.1	169.3	231.8	214.8	971.2	824.7	571.7	253.4	147.3	200.9
1997	970.0	726.5	554.5	180.8	247.0	238.0	1,106.1	945.7	667.7	280.3	161.8	240.7
1993: I	647.2	454.1	308.0	146.1	193.1	143.3	701.9	578.7	372.9	205.7	123.3	119.9
II	660.1	465.3	318.3	147.0	194.8	145.6	722.7	597.8	383.5	214.3	124.9	129.6
III	646.3	452.0	309.8	142.1	194.2	149.3	729.1	603.1	389.5	213.5	126.3	127.5
IV	679.1	483.5	334.0	149.6	195.9	150.8	759.7	628.3	411.8	216.4	131.4	138.0
1994: I	676.0	479.1	334.8	144.6	197.0	155.3	773.6	641.4	421.8	219.4	132.3	139.3
II	704.1	501.2	352.6	149.1	203.1	161.3	808.0	674.6	447.6	226.6	133.6	152.3
III	722.1	518.4	361.8	156.8	204.1	173.0	833.2	700.0	464.8	234.8	133.5	166.9
IV	747.3	540.4	376.9	163.6	207.5	184.2	853.2	720.4	489.7	230.4	133.2	181.4
1995: I	763.9	552.4	390.3	162.7	212.1	203.9	873.4	734.2	500.6	233.3	139.6	185.3
II	774.0	561.0	400.7	161.4	213.6	212.4	888.7	750.8	512.5	238.1	138.4	190.1
III	806.3	582.4	419.2	164.9	224.4	208.9	893.1	754.1	512.2	241.4	139.5	199.1
IV	826.1	598.9	433.5	167.5	227.9	214.3	900.9	759.9	524.0	236.1	141.3	193.1
1996: I	833.6	608.9	442.0	169.3	225.6	211.1	929.1	785.0	543.8	241.5	144.5	190.8
II	845.5	615.0	453.4	165.4	231.2	209.9	958.9	813.5	561.7	251.9	146.0	194.6
III	849.9	626.4	465.1	165.9	225.3	213.5	990.0	841.3	583.2	258.5	149.5	206.1
IV	911.1	667.4	495.7	176.7	244.9	224.5	1,007.0	859.0	598.1	261.7	149.0	212.0
1997: I	929.4	691.4	521.0	177.2	240.7	227.8	1,050.9	896.8	633.8	265.2	155.3	226.1
II	963.6	719.1	548.6	179.2	247.5	241.0	1,095.2	937.4	659.2	280.0	159.2	237.5
III	988.1	740.6	570.4	180.4	251.1	245.6	1,130.5	966.7	681.2	287.7	165.2	248.9
IV	958.8	754.9	578.1	186.3	248.6	237.6	1,147.8	981.8	696.6	288.1	167.5	250.5
1998: I	991.9	748.5	577.9	181.1	247.8	241.0	1,190.4	1,021.0	726.9	297.6	171.3	249.6
II	972.1	726.3	556.2	179.3	248.8	241.0	1,217.3	1,048.8	745.5	306.7	171.0	252.8
III	965.3	727.3	562.9	174.9	242.1	235.7	1,224.3	1,056.3	749.8	309.9	170.8	254.6

[1] Certain goods, primarily military equipment purchased and sold by the Federal Government, are included in services. Beginning with 1986, repairs and alterations of equipment were reclassified from goods to services.

Note.—See Table B–2 for data for total exports of goods and services and total imports of goods and services for 1959–81.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–26.—*Relation of gross domestic product, gross national product, net national product, and national income, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product	Plus: Receipts of factor income from rest of the world	Less: Payments of factor income to rest of the world	Equals: Gross national product	Less: Consumption of fixed capital			Equals: Net national product	Less:			Plus: Subsidies less current surplus of government enterprises	Equals: National income
					Total	Private	Government		Indirect business tax and nontax liability	Business transfer payments	Statistical discrepancy		
1959	507.2	4.3	1.5	510.1	54.6	40.5	14.1	455.5	41.9	1.4	–1.6	0.1	413.9
1960	526.6	5.0	1.8	529.8	55.6	42.1	14.5	473.2	43.5	1.4	–3.2	.3	429.8
1961	544.8	5.4	1.8	548.4	58.1	43.1	15.0	490.3	48.1	1.5	–2.5	1.3	444.8
1962	585.2	6.1	1.8	589.4	60.4	44.6	15.8	529.0	51.7	1.6	–1.8	1.5	479.0
1963	617.4	6.6	2.1	621.9	63.0	46.3	16.7	559.0	54.7	1.8	–3.0	.9	506.3
1964	663.0	7.4	2.4	668.0	66.0	48.6	17.4	602.1	58.8	2.0	–1.5	1.4	544.1
1965	719.1	8.1	2.7	724.5	70.2	52.0	18.2	654.3	62.7	2.2	–.8	1.7	592.0
1966	787.8	8.3	3.1	793.0	75.9	56.6	19.3	717.1	65.4	2.3	3.3	3.0	648.9
1967	833.6	8.9	3.4	839.1	82.3	61.5	20.8	756.7	70.4	2.5	1.3	2.9	685.5
1968	910.6	10.3	4.1	916.7	89.8	67.3	22.4	827.0	78.0	2.8	.9	3.1	747.3
1969	982.2	11.9	5.8	988.4	98.3	74.3	24.1	890.0	86.6	3.1	–1.5	3.6	805.4
1970	1,035.6	13.0	6.6	1,042.0	107.0	81.2	25.8	935.0	94.3	3.2	1.9	4.9	840.6
1971	1,125.4	14.1	6.4	1,133.1	116.5	88.9	27.6	1,016.6	103.6	3.4	6.1	5.1	908.6
1972	1,237.3	16.4	7.7	1,246.0	127.6	97.8	29.9	1,118.3	111.4	3.9	4.3	6.4	1,005.3
1973	1,382.6	23.8	11.1	1,395.4	140.0	107.1	32.9	1,255.4	121.0	4.5	3.4	5.9	1,132.3
1974	1,496.9	30.3	14.6	1,512.6	162.5	124.5	38.0	1,350.0	129.3	5.0	5.5	4.5	1,214.9
1975	1,630.6	28.2	14.9	1,643.9	188.7	146.3	42.4	1,455.2	140.0	5.2	12.1	8.1	1,305.9
1976	1,819.0	32.9	15.7	1,836.1	206.0	161.3	44.7	1,630.0	151.6	6.5	19.9	7.4	1,459.4
1977	2,026.9	37.9	17.2	2,047.5	228.6	181.0	47.6	1,818.9	165.5	7.3	18.2	10.1	1,638.0
1978	2,291.4	47.4	25.3	2,313.5	258.3	206.8	51.5	2,055.2	177.8	8.2	18.1	11.1	1,862.3
1979	2,557.5	70.4	37.5	2,590.4	296.7	239.9	56.8	2,293.6	188.7	9.9	28.2	11.7	2,078.5
1980	2,784.2	81.8	46.5	2,819.5	339.4	276.0	63.4	2,480.1	212.0	11.2	27.6	15.2	2,244.5
1981	3,115.9	95.6	60.9	3,150.6	368.5	318.0	70.4	2,782.1	249.3	13.4	14.9	16.9	2,501.4
1982	3,242.1	96.9	65.8	3,273.2	424.3	346.2	78.1	2,848.9	256.4	15.2	–2.5	21.1	2,600.8
1983	3,514.5	97.6	65.6	3,546.5	445.3	365.2	80.1	3,101.3	280.1	16.2	37.1	25.6	2,793.3
1984	3,902.4	118.7	87.6	3,933.5	461.5	378.4	83.1	3,472.0	309.5	18.6	5.0	25.5	3,164.4
1985	4,180.7	108.1	87.7	4,201.0	486.6	399.5	87.1	3,714.5	329.6	20.9	2.4	21.9	3,383.4
1986	4,422.2	106.5	93.6	4,435.1	517.9	424.4	93.5	3,917.2	344.7	23.6	23.3	25.1	3,550.3
1987	4,692.3	116.0	107.1	4,701.3	545.8	447.0	98.7	4,155.5	364.8	24.2	–15.4	31.0	3,813.0
1988	5,049.6	144.7	131.7	5,062.6	582.2	478.0	104.2	4,480.5	385.5	25.4	–47.3	28.5	4,145.3
1989	5,438.7	169.0	154.8	5,452.8	625.4	515.1	110.3	4,827.4	414.7	26.3	13.2	24.2	4,397.3
1990	5,743.8	177.5	156.4	5,764.9	651.5	534.3	117.3	5,113.4	442.6	26.5	17.4	25.3	4,652.1
1991	5,916.7	156.2	140.5	5,932.4	679.9	556.4	123.5	5,252.5	478.1	26.3	10.1	23.6	4,761.6
1992	6,244.4	137.9	126.8	6,255.5	713.5	585.4	128.2	5,542.0	505.6	28.4	44.8	27.1	4,990.4
1993	6,558.1	150.8	132.1	6,576.8	727.9	594.5	133.4	5,848.9	532.5	28.2	52.6	31.1	5,266.8
1994	6,947.0	176.5	168.3	6,955.2	777.5	638.6	138.8	6,177.7	568.5	30.5	14.6	26.6	5,590.7
1995	7,269.6	225.2	207.6	7,287.1	800.8	657.0	143.8	6,486.3	581.2	32.9	–26.5	25.1	5,922.7
1996	7,661.6	235.5	223.1	7,674.0	832.0	684.3	147.7	6,842.0	606.4	33.8	–32.2	22.0	6,256.0
1997	8,110.9	265.5	273.5	8,102.9	871.8	720.2	151.6	7,231.1	627.2	35.1	–55.8	21.9	6,646.5
1993: I	6,444.5	145.6	122.1	6,468.1	721.8	590.5	131.3	5,746.2	520.6	27.8	71.0	33.0	5,159.8
II	6,509.1	148.9	132.7	6,525.3	720.7	588.1	132.7	5,804.6	535.9	27.7	46.9	32.8	5,236.9
III	6,574.6	153.2	130.9	6,596.9	735.3	601.1	134.2	5,861.5	534.4	28.2	47.5	30.2	5,281.7
IV	6,704.2	155.6	142.7	6,717.1	733.6	598.1	135.5	5,983.5	549.4	29.0	45.0	28.5	5,388.7
1994: I	6,794.3	161.1	144.2	6,811.2	823.3	685.2	138.1	5,987.9	556.9	29.7	6.3	28.1	5,423.2
II	6,911.4	168.3	159.3	6,920.3	753.1	614.9	138.1	6,167.3	564.4	30.1	42.4	25.9	5,556.3
III	6,986.5	181.9	176.1	6,992.3	762.2	623.3	138.9	6,230.1	573.2	30.7	15.2	25.1	5,636.1
IV	7,095.7	194.6	193.5	7,096.8	771.4	631.2	140.2	6,325.4	579.4	31.5	–5.4	27.4	5,747.3
1995: I	7,170.8	216.9	198.4	7,189.3	783.1	641.2	142.0	6,406.2	579.1	32.5	3.1	24.6	5,816.1
II	7,210.9	227.4	205.0	7,233.3	794.4	651.1	143.3	6,438.9	580.6	32.6	–22.7	24.9	5,873.3
III	7,304.8	224.6	216.2	7,313.2	803.5	659.2	144.3	6,509.7	579.6	33.3	–43.0	25.5	5,965.3
IV	7,391.9	231.6	210.9	7,412.6	822.2	676.4	145.7	6,590.5	585.6	33.4	–43.2	25.2	6,039.8
1996: I	7,495.3	229.7	210.0	7,515.0	818.6	672.2	146.4	6,696.4	593.9	33.2	–26.3	24.0	6,119.6
II	7,629.2	229.3	215.2	7,643.3	826.4	679.2	147.2	6,816.9	599.7	33.7	–20.6	22.8	6,226.8
III	7,703.4	234.7	229.5	7,708.6	836.5	688.5	148.0	6,872.1	603.8	33.9	–49.3	20.0	6,303.6
IV	7,818.4	248.2	237.6	7,829.0	846.4	697.3	149.2	6,982.6	628.3	34.2	–32.6	21.2	6,373.9
1997: I	7,955.9	253.1	255.6	7,952.4	856.1	705.8	150.3	7,096.3	617.2	34.5	–43.1	21.3	6,509.0
II	8,063.4	268.3	269.4	8,062.3	866.5	714.9	151.6	7,195.8	625.0	35.0	–47.7	21.0	6,664.5
III	8,170.8	274.3	283.0	8,162.0	877.0	725.2	151.8	7,285.1	632.0	35.4	–65.1	22.0	6,704.8
IV	8,254.5	266.3	285.9	8,234.9	887.6	734.7	152.9	7,347.3	634.5	35.6	–67.3	23.4	6,767.9
1998: I	8,384.2	270.3	285.1	8,369.4	894.5	741.1	153.4	7,474.9	641.9	35.6	–54.1	23.5	6,875.0
II	8,440.6	270.6	289.3	8,421.8	902.3	748.5	153.7	7,519.6	647.7	36.0	–85.7	23.9	6,945.5
III	8,537.9	265.0	292.1	8,510.9	912.3	757.3	155.0	7,598.5	656.5	36.3	–102.0	24.6	7,032.3

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–27.—*Relation of national income and personal income, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	National income	Less:				Plus:				Equals:
		Corporate profits with inventory valuation and capital consumption adjustments	Net interest	Contributions for social insurance	Wage accruals less disbursements	Personal interest income	Personal dividend income	Government transfer payments to persons	Business transfer payments to persons	Personal income
1959	413.9	52.9	10.2	18.8	0.0	29.7	12.7	25.7	1.3	401.4
1960	429.8	51.4	11.2	21.9	0	25.0	13.4	27.5	1.3	412.5
1961	444.8	52.5	13.1	22.9	0	26.9	14.0	31.5	1.4	430.3
1962	479.0	60.5	14.6	25.4	0	29.3	15.0	32.6	1.5	459.0
1963	506.3	66.3	16.1	28.5	0	32.4	16.1	34.5	1.7	485.0
1964	544.1	73.3	18.2	30.1	0	36.1	18.0	36.0	1.8	514.5
1965	592.0	84.1	21.1	31.6	0	40.3	20.2	39.1	2.0	556.7
1966	648.9	89.8	24.3	40.5	0	44.9	20.9	43.6	2.1	605.7
1967	685.5	87.4	28.1	45.5	0	49.5	22.1	52.3	2.3	650.7
1968	747.3	94.2	30.4	50.4	0	54.6	24.5	60.6	2.5	714.5
1969	805.4	90.9	33.6	57.8	0	60.8	25.1	67.5	2.8	778.3
1970	840.6	78.7	40.0	62.0	0	69.2	23.5	81.8	2.8	835.1
1971	908.6	92.0	45.4	66.6	6	75.7	23.5	97.0	3.0	902.2
1972	1,005.3	106.7	49.3	75.5	0	81.8	25.5	108.4	3.4	991.8
1973	1,132.3	120.1	56.5	97.9	–1	94.1	27.7	124.1	3.8	1,107.5
1974	1,214.9	109.2	71.8	111.7	–5	117.4	29.6	147.4	4.0	1,215.9
1975	1,305.9	128.2	80.0	121.1	1	123.0	29.2	185.7	4.5	1,313.0
1976	1,459.4	154.9	85.1	137.7	1	134.6	35.0	202.8	5.5	1,449.4
1977	1,638.0	184.3	100.7	159.8	1	155.7	39.5	217.5	5.9	1,611.1
1978	1,862.3	209.0	120.5	177.9	.3	181.5	44.3	234.8	6.8	1,819.9
1979	2,078.5	213.1	150.3	204.2	–2	223.6	50.5	262.8	7.9	2,075.8
1980	2,244.5	188.3	191.9	225.0	0	276.7	57.5	312.6	8.8	2,276.0
1981	2,501.4	207.0	234.5	261.6	.1	337.2	67.2	355.7	10.2	2,368.5
1982	2,600.8	182.3	264.9	280.6	0	379.2	63.8	396.3	11.8	2,472.1
1983	2,793.3	235.2	275.9	301.9	–4	403.2	71.0	426.6	12.8	2,664.4
1984	3,164.4	290.1	318.5	345.5	2	472.3	75.4	438.5	15.1	3,011.4
1985	3,383.4	304.0	337.2	375.9	–2	508.4	79.4	468.7	17.8	3,220.9
1986	3,550.3	293.8	363.1	402.0	0	543.3	86.3	498.0	20.7	3,381.6
1987	3,813.0	333.2	372.2	423.3	0	560.0	90.2	522.5	20.8	3,577.8
1988	4,145.3	387.1	398.9	462.8	0	595.5	104.2	556.8	20.8	3,911.9
1989	4,497.3	380.0	456.6	491.2	0	674.5	126.3	604.9	21.1	4,251.4
1990	4,652.1	397.1	467.3	518.5	.1	704.4	104.9	666.5	21.3	4,396.2
1991	4,761.6	411.3	468.0	545.5	–.1	699.2	107.7	749.1	20.8	4,491.6
1992	4,990.4	428.0	414.3	571.4	–15.8	667.2	107.9	835.7	22.5	4,709.7
1993	5,266.8	492.8	402.5	596.0	4.4	651.0	147.1	889.8	22.1	4,990.0
1994	5,590.7	570.5	412.3	630.5	13.3	668.1	171.0	930.9	23.7	5,291.9
1995	5,923.7	672.4	420.6	658.9	13.4	704.9	192.8	990.1	25.8	5,617.1
1996	6,256.0	750.4	418.5	688.0	9.3	738.4	248.2	1,041.5	26.4	5,946.2
1997	6,646.5	817.9	432.0	727.0	3.7	747.3	290.3	1,083.3	27.2	6,312.0
1993: I	5,159.8	459.2	411.2	585.3	70.1	660.3	140.5	874.9	22.3	5,332.1
II	5,236.9	478.2	404.6	594.0	–.1	653.7	144.1	886.0	22.0	5,424.1
III	5,281.7	482.8	398.9	598.7	–.1	647.8	149.3	895.3	22.0	5,514.7
IV	5,388.7	541.2	395.4	606.1	–52.2	642.1	154.6	903.1	22.2	5,567.3
1994: I	5,423.2	512.0	397.2	619.2	52.4	641.4	159.1	917.3	23.1	5,593.3
II	5,556.3	562.0	405.6	628.2	.3	656.4	166.8	926.2	23.6	5,731.1
III	5,636.1	590.1	415.6	633.4	.3	674.1	174.5	934.8	24.0	5,804.1
IV	5,747.3	617.7	430.7	641.2	.3	700.4	183.6	945.4	24.4	5,911.2
1995: I	5,816.1	629.3	426.9	650.5	13.4	702.3	185.0	971.1	25.1	5,971.5
II	5,873.3	653.9	420.2	656.1	13.4	701.5	186.7	985.6	25.7	6,030.3
III	5,965.3	698.6	415.2	662.3	13.4	702.6	191.8	996.9	26.1	6,089.5
IV	6,039.8	707.8	420.2	667.7	13.4	713.2	207.9	1,006.7	26.3	6,186.0
1996: I	6,119.6	735.9	419.2	673.4	9.3	713.5	234.4	1,028.4	26.2	6,281.3
II	6,226.8	743.3	419.7	684.2	9.3	715.9	243.5	1,039.1	26.3	6,393.0
III	6,303.6	755.4	418.1	693.0	9.3	721.5	255.4	1,045.6	26.5	6,477.7
IV	6,373.9	762.0	417.5	701.3	9.3	726.8	259.6	1,053.1	26.7	6,547.8
1997: I	6,509.0	794.3	430.4	714.0	3.7	740.1	259.7	1,073.5	26.9	6,666.7
II	6,604.5	815.5	431.8	722.1	3.7	745.7	259.9	1,079.7	27.1	6,741.6
III	6,704.8	840.9	433.3	730.8	3.7	750.5	260.4	1,086.7	27.3	6,820.9
IV	6,767.9	870.8	432.4	740.9	3.7	753.0	261.3	1,093.1	27.5	6,909.9
1998: I	6,875.0	829.2	440.5	755.0	4.0	757.0	261.6	1,111.2	27.8	7,003.9
II	6,945.5	820.6	447.1	762.9	4.0	763.0	262.1	1,117.7	28.1	7,081.9
III	7,032.3	827.0	454.0	771.6	4.0	769.2	263.0	1,124.6	28.3	7,170.8

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–28.—*National income by type of income, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	National income [1]	Compensation of employees							Proprietors' income with inventory valuation and capital consumption adjustments				
			Wages and salaries			Supplements to wages and salaries				Farm		Nonfarm	
		Total	Total	Government	Other	Total	Employer contributions for social insurance	Other labor income	Total	Total	Proprietors' income [2]	Total	Proprietors' income [3]
1959	413.9	281.2	259.8	46.0	213.8	21.4	10.9	10.6	51.9	10.9	11.8	40.9	40.2
1960	429.8	296.7	272.8	49.2	223.7	23.8	12.6	11.2	51.9	11.5	12.3	40.5	39.8
1961	444.8	305.6	280.5	52.4	228.0	25.1	13.3	11.8	54.4	12.1	12.9	42.3	41.8
1962	479.0	327.4	299.3	56.3	243.0	28.1	15.1	13.0	56.5	12.1	12.9	44.4	43.9
1963	506.1	345.5	314.8	60.0	254.8	30.7	16.7	14.0	57.8	11.9	12.7	45.8	45.2
1964	544.1	371.0	337.7	64.9	272.9	33.2	17.5	15.7	60.6	10.8	11.6	49.8	49.2
1965	592.0	399.8	363.7	69.9	293.8	36.1	18.3	17.8	65.1	13.0	13.9	52.1	51.9
1966	648.9	443.0	400.3	78.3	321.9	42.7	22.8	19.9	69.4	14.1	15.0	55.3	55.4
1967	685.5	475.5	428.9	86.4	342.5	46.6	24.9	21.7	71.0	12.7	13.7	58.2	58.3
1968	747.3	524.7	471.9	96.6	375.3	52.8	27.6	25.2	75.3	12.8	13.8	62.5	63.0
1969	805.4	578.3	518.3	105.5	412.7	60.0	31.5	28.5	79.1	14.6	15.8	64.6	65.0
1970	840.6	618.1	551.5	117.1	434.3	66.6	34.1	32.5	80.2	14.8	16.1	65.4	66.0
1971	908.6	660.1	584.5	126.7	457.8	75.6	38.9	36.7	86.5	15.4	16.9	71.1	72.0
1972	1,005.3	726.8	638.7	137.8	500.9	88.1	45.1	43.0	98.3	19.5	21.2	78.8	79.3
1973	1,132.3	813.1	708.6	148.7	560.0	104.4	55.3	49.2	116.8	32.6	34.5	84.2	85.9
1974	1,214.9	892.4	772.2	160.4	611.8	120.3	63.7	56.5	115.7	25.8	28.4	89.8	93.4
1975	1,305.9	951.3	814.7	176.1	638.6	136.6	70.6	65.9	121.8	24.1	27.5	97.7	99.2
1976	1,459.4	1,061.5	899.6	188.7	710.8	162.0	82.2	79.7	133.6	18.6	22.6	115.0	116.3
1977	1,638.0	1,182.9	994.6	202.4	791.6	188.9	94.1	94.7	147.4	17.5	21.8	129.9	131.0
1978	1,862.3	1,338.5	1,121.1	219.8	901.2	217.4	107.3	110.1	169.5	22.2	27.0	147.4	148.7
1979	2,078.5	1,503.3	1,255.7	236.9	1,018.8	247.5	123.2	124.3	185.0	25.3	31.1	159.7	160.9
1980	2,244.5	1,653.9	1,377.6	261.2	1,116.4	276.3	136.4	139.8	176.6	12.2	19.4	164.4	165.2
1981	2,501.4	1,827.8	1,517.6	285.6	1,232.0	310.2	157.1	153.0	187.6	21.9	30.2	165.7	160.7
1982	2,600.8	1,927.6	1,593.9	307.3	1,286.7	333.7	168.3	165.4	179.6	14.5	23.4	165.1	158.2
1983	2,793.3	2,044.2	1,684.8	324.5	1,360.3	359.4	182.2	177.2	191.9	4.1	12.8	187.8	172.2
1984	3,164.4	2,257.0	1,855.3	347.8	1,507.5	401.7	212.8	188.9	248.7	23.2	31.6	225.5	199.7
1985	3,383.4	2,425.7	1,995.7	373.5	1,622.1	430.0	226.9	203.1	268.6	23.6	31.5	245.0	210.5
1986	3,550.3	2,572.4	2,116.5	396.6	1,720.0	455.9	239.9	216.0	279.5	24.2	32.1	255.3	215.9
1987	3,813.0	2,757.7	2,272.7	423.1	1,849.5	485.0	249.7	235.4	305.1	31.5	39.2	273.6	238.2
1988	4,145.3	2,973.9	2,453.6	450.4	2,003.2	520.3	268.6	251.7	335.3	27.5	35.1	307.8	272.0
1989	4,397.3	3,151.6	2,598.1	479.4	2,118.7	553.5	280.4	273.1	357.4	36.3	43.9	321.1	284.8
1990	4,652.1	3,352.8	2,757.5	517.2	2,240.3	595.2	294.6	300.6	374.0	35.4	43.3	338.6	312.7
1991	4,761.6	3,457.9	2,827.6	546.0	2,281.5	630.4	307.7	322.7	376.5	29.3	37.2	347.2	325.0
1992	4,990.4	3,644.9	2,970.6	567.8	2,402.9	674.3	323.0	351.3	423.8	37.1	45.2	386.7	363.1
1993	5,266.8	3,814.9	3,094.0	584.3	2,509.7	720.8	335.7	385.1	450.8	32.4	40.4	418.4	392.7
1994	5,590.7	4,012.0	3,254.0	602.7	2,651.8	758.1	353.0	405.0	471.6	36.9	44.8	434.7	415.0
1995	5,923.7	4,208.9	3,441.9	622.7	2,819.2	767.0	365.3	401.6	488.1	22.4	30.3	465.6	442.7
1996	6,256.0	4,403.0	3,640.4	640.9	2,999.5	768.6	381.7	387.0	527.7	38.9	46.7	488.8	461.6
1997	6,646.5	4,687.2	3,893.6	664.2	3,229.4	793.7	400.7	392.9	551.2	35.5	43.0	515.8	485.3
1993:I	5,159.8	3,749.3	3,045.5	581.1	2,464.5	703.8	330.0	373.8	440.3	29.7	37.7	410.6	383.5
II	5,236.9	3,796.3	3,079.3	581.5	2,497.7	717.0	334.7	382.3	452.2	36.3	44.2	416.0	389.0
III	5,281.7	3,837.6	3,111.0	586.3	2,524.7	726.6	337.1	389.5	446.2	25.6	33.8	420.6	394.8
IV	5,388.7	3,876.2	3,140.4	588.4	2,552.0	735.8	340.9	394.9	464.4	38.0	46.0	426.5	403.4
1994:I	5,423.2	3,937.4	3,190.7	596.0	2,594.8	746.7	347.1	399.5	463.9	46.4	54.3	417.5	408.1
II	5,556.3	3,988.0	3,232.3	601.3	2,631.0	755.6	352.0	403.7	474.7	38.8	46.7	435.9	410.9
III	5,636.1	4,028.7	3,267.2	603.5	2,663.7	761.5	354.6	406.9	471.6	33.2	41.1	438.4	416.6
IV	5,747.3	4,093.9	3,325.9	608.0	2,717.8	768.1	358.3	409.8	476.1	29.1	37.0	447.0	424.3
1995:I	5,816.1	4,150.3	3,381.6	617.3	2,764.3	768.8	361.7	407.1	478.6	22.8	30.7	455.7	434.9
II	5,873.3	4,183.6	3,416.8	621.2	2,795.6	766.7	363.2	403.6	482.4	20.4	28.3	462.0	439.9
III	5,965.3	4,230.0	3,462.7	624.5	2,838.2	767.2	367.0	400.3	489.8	19.1	27.0	470.7	447.1
IV	6,039.8	4,271.6	3,506.5	627.8	2,878.7	765.1	369.5	395.6	501.5	27.4	35.3	474.1	449.0
1996:I	6,119.6	4,303.5	3,542.0	634.4	2,907.6	761.5	373.5	387.9	516.1	34.8	42.7	481.3	455.4
II	6,226.8	4,382.4	3,615.2	639.1	2,976.0	767.2	379.6	387.5	528.0	41.0	48.8	487.0	460.5
III	6,303.6	4,444.4	3,673.6	642.7	3,030.8	770.9	384.5	386.4	533.5	43.2	51.0	490.3	462.5
IV	6,373.9	4,505.9	3,730.9	647.2	3,083.7	775.0	389.0	386.0	533.1	36.7	44.4	496.4	468.1
1997:I	6,509.0	4,586.3	3,802.2	657.0	3,145.2	784.1	394.5	389.7	540.5	36.4	44.1	504.1	474.6
II	6,604.5	4,649.2	3,859.2	661.6	3,197.6	790.0	398.4	391.5	549.9	37.8	45.4	512.1	481.5
III	6,704.8	4,715.5	3,919.3	666.7	3,252.6	796.2	402.7	393.6	556.5	36.3	43.8	520.2	489.8
IV	6,767.9	4,798.0	3,993.6	671.4	3,322.2	804.4	407.4	397.0	558.0	31.4	38.8	526.6	495.5
1998:I	6,875.0	4,882.8	4,065.9	679.5	3,386.4	816.8	414.1	402.8	564.2	27.4	34.7	536.8	502.9
II	6,945.5	4,945.2	4,121.6	685.8	3,435.8	823.5	417.9	405.7	571.7	27.7	35.0	544.0	511.6
III	7,032.3	5,011.6	4,181.1	692.7	3,488.4	830.5	422.1	408.4	576.1	25.2	32.3	550.9	516.9

[1] National income is the total net income earned in production. It differs from gross domestic product mainly in that it excludes depreciation charges and other allowances for business and institutional consumption of durable capital goods and indirect business taxes. See Table B–26.

See next page for continuation of table.

TABLE B–28.—*National income by type of income, 1959–98*—Continued

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Rental income of persons with capital consumption adjustment			Corporate profits with inventory valuation and capital consumption adjustments									Net interest
					Profits with inventory valuation adjustment and without capital consumption adjustment								
						Profits					Inventory valuation adjustment	Capital consumption adjustment	
								Profits after tax					
	Total	Rental income of persons	Capital consumption adjustment	Total	Total	Profits before tax	Profits tax liability	Total	Dividends	Undistributed profits			
1959	17.7	19.8	–2.0	52.9	53.1	53.4	23.6	29.7	12.7	17.0	–0.3	–0.2	10.2
1960	18.6	20.6	–2.1	51.4	51.0	51.1	22.7	28.4	13.4	15.0	–.2	.5	11.2
1961	19.2	21.2	–2.0	52.5	51.3	51.0	22.8	28.2	14.0	14.3	.3	1.2	13.1
1962	20.0	22.0	–2.0	60.5	56.4	56.4	24.0	32.4	15.0	17.4	.0	4.1	14.6
1963	20.7	22.6	–1.9	66.3	61.2	61.2	26.2	34.9	16.1	18.8	.1	5.1	16.1
1964	21.0	23.0	–2.0	73.3	67.5	68.0	28.0	40.0	18.0	22.0	–.5	5.8	18.2
1965	21.8	23.9	–2.2	84.1	77.6	78.8	30.9	47.9	20.2	27.8	–1.2	6.6	21.1
1966	22.5	24.9	–2.5	89.8	83.0	85.1	33.7	51.4	20.9	30.5	–2.1	6.9	24.3
1967	23.6	26.3	–2.7	87.4	80.3	81.8	32.7	49.2	22.1	27.1	–1.6	7.1	28.1
1968	22.7	25.9	–3.2	94.2	86.9	90.6	39.4	51.2	24.6	26.6	–3.7	7.3	30.4
1969	23.4	27.3	–3.9	90.9	83.2	89.0	39.7	49.4	25.2	24.1	–5.9	7.8	33.6
1970	23.6	27.8	–4.2	78.7	71.8	78.4	34.4	44.0	23.7	20.3	–6.6	6.7	40.0
1971	24.6	29.5	–4.9	92.0	85.5	90.1	37.7	52.4	23.7	28.6	–4.6	6.5	45.4
1972	24.3	30.3	–6.0	106.7	97.9	104.5	41.9	62.6	25.8	36.9	–6.6	8.8	49.3
1973	25.8	32.8	–7.0	120.1	110.9	130.9	49.3	81.6	28.1	53.5	–20.0	9.2	56.5
1974	25.7	34.4	–8.6	109.2	103.4	142.8	51.8	91.0	30.4	60.6	–39.5	5.8	71.8
1975	24.7	34.9	–10.2	128.2	129.4	140.4	50.9	89.5	30.1	59.4	–11.0	–1.3	80.0
1976	24.3	35.7	–11.5	154.9	158.9	173.8	64.2	109.6	35.9	73.7	–14.9	–4.0	85.1
1977	22.8	36.4	–13.6	184.3	186.8	203.5	73.0	130.4	40.8	89.6	–16.6	–2.5	100.7
1978	24.8	41.3	–16.5	209.0	213.1	238.1	83.5	154.6	46.0	108.6	–25.0	–4.1	120.5
1979	26.9	46.9	–20.0	213.1	220.2	261.8	88.0	173.8	52.5	121.3	–41.6	–7.1	150.3
1980	33.9	57.5	–23.6	188.3	198.3	241.4	84.8	156.6	59.3	97.3	–43.0	–10.1	191.9
1981	44.5	70.9	–26.5	207.0	204.1	229.8	81.1	148.6	69.5	79.1	–25.7	3.0	234.5
1982	46.5	75.0	–28.5	182.3	166.8	176.7	63.1	113.6	66.7	46.9	–9.9	15.5	264.9
1983	46.1	75.1	–28.9	235.2	203.7	212.8	77.2	135.5	74.4	61.2	–9.1	31.5	275.9
1984	50.1	79.4	–29.4	290.1	238.5	244.2	94.0	150.1	79.3	70.9	–5.6	51.5	318.5
1985	48.1	79.3	–31.2	304.0	230.5	229.9	96.5	133.4	83.9	49.6	.5	73.5	337.2
1986	41.5	73.0	–31.5	293.8	234.0	222.6	106.5	116.1	91.4	24.7	11.4	59.8	363.1
1987	44.8	77.9	–33.1	333.2	272.9	293.6	127.1	166.5	96.0	70.5	–20.7	60.2	372.2
1988	55.1	90.1	–35.0	382.1	325.0	354.3	137.0	217.3	111.1	106.3	–29.3	57.1	398.9
1989	51.7	91.4	–39.7	380.0	330.6	348.1	141.3	206.8	134.4	72.4	–17.5	49.3	456.6
1990	61.0	99.1	–38.1	397.1	358.2	371.7	140.5	231.2	143.9	87.3	–13.5	38.9	467.3
1991	67.9	107.5	–39.6	411.3	378.2	374.2	133.4	240.8	147.2	93.6	4.0	33.1	448.0
1992	79.4	127.5	–48.1	428.0	398.9	406.4	143.0	263.4	147.9	115.5	–7.5	29.1	414.3
1993	105.7	148.5	–42.8	492.8	456.9	465.4	165.2	300.2	157.6	142.6	–8.5	36.0	402.5
1994	124.4	172.0	–47.6	570.5	519.1	535.1	186.6	348.5	182.4	166.1	–16.1	51.4	412.3
1995	133.7	181.8	–48.0	672.4	613.0	635.6	211.0	424.6	205.3	219.3	–22.6	59.4	420.6
1996	150.2	198.4	–48.1	750.4	679.0	680.2	226.1	454.1	261.9	192.3	–1.2	71.4	418.6
1997	158.2	208.6	–50.4	817.9	741.2	734.4	246.1	488.3	275.1	213.2	6.9	76.6	432.0
1993: I	99.7	144.8	–45.1	459.2	419.2	431.7	149.2	282.5	150.7	131.8	–12.5	40.0	411.2
II	105.6	146.6	–41.0	478.2	444.4	461.5	165.4	296.1	154.5	141.6	–17.1	33.8	404.6
III	106.1	149.4	–43.3	492.8	459.8	459.6	161.2	298.4	159.8	138.6	.2	33.0	398.9
IV	111.5	153.3	–41.9	541.2	504.1	508.9	184.9	324.0	165.4	158.6	–4.8	37.1	395.4
1994: I	112.7	171.2	–58.4	512.0	470.8	475.1	163.0	312.1	170.2	141.9	–4.3	41.2	397.2
II	126.0	169.0	–43.0	562.0	510.2	525.3	182.8	342.5	178.1	164.4	–15.1	51.8	405.6
III	130.1	174.0	–43.9	590.1	535.0	556.2	194.6	361.6	186.0	175.6	–21.2	55.1	415.6
IV	128.9	173.9	–45.0	617.7	560.3	583.9	206.2	377.7	195.3	182.4	–23.6	57.4	430.7
1995: I	131.1	177.5	–46.4	629.3	572.6	610.5	202.9	407.6	197.1	210.5	–37.9	56.7	426.9
II	133.3	180.0	–46.7	653.9	595.5	629.4	207.6	421.9	199.0	222.8	–33.9	58.3	420.2
III	131.9	178.9	–47.1	698.6	637.4	650.8	219.1	431.6	204.4	227.2	–13.4	61.2	415.2
IV	138.7	190.7	–51.9	707.8	646.5	651.8	214.3	437.5	220.7	216.8	–5.3	61.3	420.2
1996: I	145.0	192.2	–47.3	735.9	667.0	669.9	223.9	446.0	247.6	198.4	–2.9	68.9	419.2
II	148.4	196.0	–47.5	748.3	677.1	683.4	228.6	454.8	257.1	197.6	–6.2	71.2	419.7
III	152.1	200.8	–48.6	755.4	683.0	681.9	227.7	454.2	269.1	185.1	1.2	72.3	418.1
IV	155.3	204.4	–49.1	762.0	688.7	685.7	224.2	461.5	273.6	187.9	3.0	73.3	417.5
1997: I	157.5	206.9	–49.4	794.3	720.5	712.4	238.8	473.6	274.1	199.5	8.1	73.8	430.4
II	158.0	208.0	–50.0	815.5	740.1	729.8	241.9	487.8	274.7	213.2	10.3	75.5	431.8
III	158.6	209.4	–50.8	840.9	763.7	758.9	254.2	504.7	275.1	229.5	4.8	77.2	433.3
IV	158.8	210.2	–51.4	820.8	740.7	736.4	249.3	487.1	276.4	210.6	4.3	80.1	432.4
1998: I	158.3	209.5	–51.2	829.2	744.3	719.1	239.9	479.2	277.3	201.8	25.3	84.9	440.5
II	161.0	212.2	–51.3	820.6	731.3	723.5	241.6	481.8	278.1	203.7	7.8	89.4	447.1
III	163.6	215.7	–52.0	827.0	732.1	720.5	243.2	477.3	279.0	198.3	11.7	94.8	454.0

[2] Without capital consumption adjustment.
[3] Without inventory valuation and capital consumption adjustments.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–29.—*Sources of personal income, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Personal income	Wage and salary disbursements[1]							Other labor income[1]	Proprietors' income with inventory valuation and capital consumption adjustments	
		Total	Private industries					Government			
			Total	Goods-producing industries		Distributive industries	Service industries			Farm	Nonfarm
				Total	Manufacturing						
1959	394.4	259.8	213.8	109.9	86.9	65.1	38.8	46.0	10.6	10.9	40.9
1960	412.5	272.8	223.7	113.4	89.8	68.6	41.7	49.2	11.2	11.5	40.5
1961	430.0	280.5	228.0	114.0	89.9	69.6	44.4	52.4	11.8	12.1	42.3
1962	457.0	299.3	243.0	122.2	96.8	73.3	47.6	56.3	13.0	12.1	44.4
1963	480.0	314.8	254.8	127.4	100.7	76.8	50.7	60.0	14.0	11.9	45.8
1964	514.5	337.7	272.9	136.0	107.3	82.0	54.9	64.9	15.7	10.8	49.8
1965	556.7	363.7	293.8	146.6	115.7	87.9	59.4	69.9	17.8	13.0	52.1
1966	605.7	400.3	321.9	161.6	128.2	95.1	65.3	78.3	19.9	14.1	55.3
1967	650.7	428.9	342.5	169.0	134.3	101.6	72.0	86.4	21.7	12.7	58.2
1968	714.5	471.9	375.3	184.1	146.0	110.8	80.4	96.6	25.2	12.8	62.5
1969	779.3	518.3	412.7	200.4	157.7	121.7	90.6	105.5	28.5	14.6	64.6
1970	837.1	551.5	434.3	203.7	158.4	131.2	99.4	117.1	32.5	14.8	65.4
1971	900.2	583.9	457.4	209.1	160.5	140.4	107.9	126.5	36.7	15.4	71.1
1972	988.8	638.7	501.2	228.2	175.6	153.3	119.7	137.4	43.0	19.5	78.8
1973	1,107.5	708.7	560.0	255.9	196.6	170.3	133.9	148.7	49.2	32.6	84.2
1974	1,215.9	772.6	611.8	276.5	211.8	186.8	148.6	160.9	56.5	25.8	89.8
1975	1,319.0	814.6	638.6	277.1	211.6	198.1	163.4	176.0	65.9	24.1	97.7
1976	1,459.4	899.5	710.8	309.7	238.0	219.5	181.6	188.6	79.7	18.6	115.0
1977	1,616.1	993.9	791.6	346.1	266.7	242.7	202.8	202.3	94.7	17.5	129.9
1978	1,825.9	1,120.8	901.2	392.6	300.1	274.9	233.7	219.6	110.1	22.2	147.4
1979	2,055.8	1,255.9	1,018.8	442.5	335.3	308.5	267.8	237.1	124.3	25.3	159.7
1980	2,293.0	1,377.7	1,116.4	472.5	356.4	336.7	307.2	261.3	139.8	12.2	164.4
1981	2,568.5	1,517.6	1,232.0	514.9	388.0	368.5	348.6	285.6	153.0	21.9	165.7
1982	2,724.1	1,593.9	1,286.7	515.1	386.2	385.9	385.7	307.3	165.4	14.5	165.1
1983	2,894.4	1,685.3	1,360.3	528.2	401.2	405.7	426.4	325.0	177.2	4.1	187.8
1984	3,211.4	1,855.1	1,507.5	586.6	445.9	445.2	475.6	347.6	188.9	23.2	225.5
1985	3,440.9	1,995.9	1,622.1	620.7	468.9	476.5	525.0	373.8	203.1	23.6	245.0
1986	3,639.6	2,116.5	1,720.0	637.3	481.2	501.6	581.0	396.6	216.0	24.2	255.3
1987	3,877.8	2,272.7	1,849.5	660.4	497.2	535.4	653.7	423.1	235.4	31.5	273.6
1988	4,178.9	2,453.6	2,003.2	707.0	530.1	575.3	720.9	450.4	251.7	27.5	307.8
1989	4,496.4	2,598.1	2,118.7	732.4	548.1	606.8	779.5	479.4	273.1	36.3	321.1
1990	4,796.2	2,757.5	2,240.3	754.2	561.2	634.1	852.1	517.2	300.6	35.4	338.6
1991	4,965.6	2,827.6	2,281.5	746.3	562.5	646.6	888.6	546.1	322.7	29.3	347.2
1992	5,255.7	2,986.4	2,418.6	765.7	583.5	680.3	972.6	567.8	351.3	37.1	386.7
1993	5,481.0	3,089.6	2,505.3	781.2	592.9	699.4	1,024.7	584.3	385.1	32.4	418.4
1994	5,757.9	3,240.7	2,638.5	824.4	620.8	741.4	1,072.7	602.2	405.0	36.9	434.7
1995	6,072.1	3,428.5	2,805.8	863.9	647.9	782.9	1,158.9	622.7	401.6	22.4	465.6
1996	6,425.2	3,631.1	2,990.2	909.0	674.6	823.3	1,257.9	640.9	387.0	38.9	488.8
1997	6,784.0	3,889.8	3,225.7	975.0	719.5	879.8	1,370.8	664.2	392.9	35.5	515.8
1993: I	5,332.1	2,975.4	2,394.4	749.7	566.7	677.5	967.2	581.1	373.8	29.7	410.6
II	5,466.1	3,079.3	2,497.8	779.9	592.8	697.7	1,020.2	581.5	382.3	36.3	416.0
III	5,505.7	3,111.1	2,524.8	786.5	597.2	704.3	1,034.0	586.3	389.5	25.6	420.6
IV	5,620.3	3,192.6	2,604.2	808.6	614.9	718.2	1,077.4	588.4	394.9	38.0	426.5
1994: I	5,583.3	3,138.3	2,542.3	797.1	600.7	715.8	1,029.4	596.0	399.5	46.4	417.5
II	5,733.1	3,232.0	2,630.7	820.5	618.4	737.9	1,072.3	601.3	403.7	38.8	435.9
III	5,804.1	3,266.9	2,663.4	832.9	626.9	748.0	1,082.5	603.5	406.9	33.2	438.4
IV	5,911.2	3,325.6	2,717.5	847.2	637.1	763.6	1,106.7	608.0	409.8	29.1	447.0
1995: I	5,979.5	3,368.2	2,750.9	853.8	642.4	770.1	1,127.0	617.3	407.1	22.8	455.7
II	6,030.3	3,403.5	2,782.2	858.1	644.0	778.2	1,145.9	621.2	403.6	20.4	462.0
III	6,093.5	3,449.4	2,824.8	868.1	650.4	788.2	1,168.5	624.5	400.3	19.1	470.7
IV	6,185.0	3,493.2	2,865.3	875.7	654.6	795.3	1,194.3	627.8	395.6	27.4	474.1
1996: I	6,284.3	3,532.7	2,898.2	880.5	654.6	803.3	1,214.4	634.4	387.9	34.8	481.3
II	6,390.0	3,605.8	2,966.7	904.2	672.2	817.1	1,245.4	639.1	387.5	41.0	487.0
III	6,476.7	3,664.2	3,021.5	919.4	682.1	829.8	1,272.4	642.7	386.4	43.2	490.3
IV	6,549.8	3,721.6	3,074.4	931.9	689.4	842.9	1,299.5	647.2	386.0	36.7	496.4
1997: I	6,666.7	3,798.5	3,141.5	951.6	702.4	858.1	1,331.7	657.0	389.7	36.4	504.1
II	6,743.6	3,855.5	3,193.9	965.4	712.0	870.2	1,358.3	661.6	391.5	37.8	512.1
III	6,820.9	3,915.5	3,248.9	979.4	722.3	886.3	1,383.2	666.7	393.6	36.3	520.2
IV	6,904.9	3,989.9	3,318.4	1,003.7	741.3	904.5	1,410.2	671.4	397.0	31.4	526.6
1998: I	7,003.9	4,061.9	3,382.4	1,019.0	750.4	918.9	1,444.5	679.5	402.8	27.4	536.8
II	7,081.9	4,117.6	3,431.8	1,023.2	750.8	932.2	1,476.4	685.8	405.7	27.7	544.0
III	7,160.8	4,177.1	3,484.4	1,028.0	750.9	945.8	1,510.6	692.7	408.4	25.2	550.9

[1] The total of wage and salary disbursements and other labor income differs from compensation of employees in Table B–28 in that it excludes employer contributions for social insurance and the excess of wage accruals over wage disbursements.

See next page for continuation of table.

TABLE B–29.—*Sources of personal income, 1959–98*—Continued

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Rental income of persons with capital consumption adjustment	Personal dividend income	Personal interest income	Transfer payments to persons							Less: Personal contributions for social insurance
				Total	Old-age, survivors, disability, and health insurance benefits	Government unemployment insurance benefits	Veterans benefits	Government employees retirement benefits	Family assistance [1]	Other	
1959	17.7	12.7	22.7	27.0	10.2	2.8	4.6	2.8	0.9	5.7	7.9
1960	18.6	13.4	25.0	28.8	11.1	3.0	4.6	3.1	1.0	6.1	9.3
1961	19.2	14.0	26.9	32.8	12.6	4.3	5.0	3.4	1.1	6.5	9.7
1962	20.0	15.0	29.3	34.1	14.3	3.1	4.7	3.7	1.3	7.0	10.3
1963	20.7	16.1	32.4	36.2	15.2	3.0	4.8	4.2	1.4	7.6	11.8
1964	21.0	18.0	36.1	37.9	16.0	2.7	4.7	4.7	1.5	8.2	12.6
1965	21.8	20.2	40.3	41.1	18.1	2.3	4.9	5.2	1.7	9.0	13.3
1966	22.5	20.9	44.9	45.7	20.8	1.9	4.9	6.1	1.9	10.3	17.8
1967	23.6	22.1	49.5	54.6	25.5	2.2	5.6	6.9	2.3	12.2	20.6
1968	22.7	24.5	54.6	63.2	30.2	2.1	5.9	7.6	2.8	14.5	22.9
1969	23.4	25.1	60.8	70.3	32.9	2.2	6.7	8.7	3.5	16.2	26.2
1970	23.6	23.5	69.2	84.6	38.5	4.0	7.7	10.2	4.8	19.4	27.9
1971	24.6	23.5	75.7	100.1	44.5	5.8	8.8	11.8	6.2	23.0	30.7
1972	24.3	25.5	81.8	111.8	49.6	5.7	9.7	13.8	6.9	26.1	34.5
1973	25.8	27.7	94.1	127.9	60.4	4.4	10.4	16.0	7.2	29.5	42.6
1974	25.7	29.6	112.4	151.3	70.1	6.8	11.8	13.0	7.9	35.7	47.9
1975	24.7	29.2	123.0	190.2	81.4	17.6	14.5	22.7	9.2	44.7	50.4
1976	24.3	35.0	134.6	208.3	92.9	15.8	14.4	26.1	10.1	49.1	55.5
1977	22.8	39.5	155.7	223.3	104.9	12.7	13.8	29.0	10.6	52.4	61.2
1978	24.8	44.3	184.5	241.6	116.2	9.7	13.9	32.7	10.7	58.4	69.8
1979	26.9	50.5	223.6	270.7	131.8	9.8	14.4	36.9	11.0	66.8	81.0
1980	33.9	57.5	274.7	321.5	154.2	16.1	15.0	43.0	12.4	80.8	88.6
1981	44.5	67.2	337.2	365.9	182.0	15.9	16.1	49.4	13.0	89.7	104.5
1982	46.5	63.8	379.2	408.1	204.5	25.2	16.4	54.6	13.3	94.1	112.3
1983	46.1	71.0	403.2	439.4	221.7	26.3	16.6	58.0	14.2	102.6	119.7
1984	50.1	75.4	472.3	453.6	235.7	15.9	16.4	60.9	14.8	109.9	132.7
1985	48.1	79.4	508.4	486.5	253.4	15.7	16.7	66.6	15.4	118.7	149.0
1986	41.5	86.3	543.3	518.6	269.2	16.3	16.7	70.7	16.4	129.3	162.1
1987	44.8	90.2	560.0	543.3	282.9	14.5	16.6	76.0	16.7	136.6	173.7
1988	55.1	104.2	595.5	577.6	300.4	13.3	16.9	82.2	17.3	147.6	194.2
1989	51.7	126.3	674.5	626.0	325.1	14.4	17.3	87.6	18.0	163.6	210.8
1990	61.0	134.9	704.4	687.8	352.0	18.1	17.8	94.5	19.8	185.6	223.9
1991	67.9	137.7	699.2	769.9	382.3	26.8	18.3	102.2	22.0	218.2	235.8
1992	79.4	137.9	667.2	858.2	414.0	38.9	19.3	109.0	23.3	253.8	248.4
1993	105.7	147.1	651.0	912.0	444.4	34.0	20.2	116.6	24.0	272.8	260.3
1994	124.4	171.0	668.1	954.7	473.0	23.6	20.2	124.5	24.3	289.3	277.5
1995	133.7	192.8	704.9	1,015.9	507.8	21.4	20.8	133.8	23.3	308.8	293.6
1996	150.2	248.2	719.4	1,068.0	538.0	21.9	21.6	141.3	21.6	323.5	306.3
1997	158.2	260.3	747.3	1,110.4	565.9	19.9	22.4	151.4	19.7	331.1	326.2
1993: I	99.7	140.5	660.3	897.2	437.6	34.5	20.0	114.2	23.7	267.3	255.2
II	105.6	144.1	653.7	908.0	441.9	34.4	20.5	115.9	24.0	271.4	259.2
III	106.1	149.3	647.8	917.3	446.4	34.7	20.3	117.4	24.0	274.6	261.6
IV	111.5	154.6	642.1	925.3	451.8	32.6	19.8	119.0	24.2	277.9	265.2
1994: I	112.7	159.1	641.4	940.4	463.3	27.7	20.0	120.5	24.3	284.6	272.0
II	126.0	166.8	656.4	949.8	470.4	23.9	20.1	123.8	24.3	287.3	276.2
III	130.1	174.5	674.1	958.8	475.8	21.6	20.5	125.9	24.4	290.7	278.8
IV	128.9	183.6	700.4	969.8	482.4	20.9	20.1	127.6	24.2	294.5	282.9
1995: I	131.1	185.0	702.3	996.2	497.6	20.6	20.6	130.2	23.8	303.2	288.9
II	133.3	186.7	701.5	1,011.2	505.6	21.1	20.8	133.3	23.5	307.0	291.9
III	131.9	191.8	702.6	1,023.0	511.5	21.7	21.1	135.1	23.1	310.6	295.3
IV	138.7	207.9	713.2	1,033.1	516.7	22.2	20.6	136.6	22.7	314.3	298.1
1996: I	145.0	234.4	713.5	1,054.6	529.6	22.8	21.5	137.6	22.3	320.8	299.8
II	148.4	243.5	715.9	1,065.5	535.6	22.1	21.9	141.1	21.9	322.9	304.6
III	152.1	255.4	721.5	1,072.1	540.6	21.4	21.7	142.3	21.4	324.6	308.5
IV	155.3	259.6	726.8	1,079.7	546.2	21.5	21.5	144.4	20.7	325.5	312.4
1997: I	157.5	259.7	740.1	1,100.4	559.1	20.9	22.5	148.9	20.2	328.8	319.5
II	158.0	259.9	745.7	1,106.8	563.9	19.9	22.4	150.7	19.9	330.0	323.7
III	158.6	260.4	750.5	1,114.0	568.3	19.6	22.6	152.2	19.5	331.8	328.2
IV	158.8	261.3	753.0	1,120.5	572.2	19.3	22.3	153.8	19.1	333.8	333.6
1998: I	158.3	261.6	757.0	1,139.0	581.6	19.6	23.3	156.8	18.7	338.9	340.9
II	161.0	262.1	763.0	1,145.8	585.0	19.5	23.2	158.4	18.0	341.6	345.1
III	163.6	263.0	769.2	1,152.9	589.0	19.5	23.3	160.3	17.1	343.8	349.5

[1] Consists of aid to families with dependent children and, beginning with 1996, assistance programs operating under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996.

Note.—The industry classification of wage and salary disbursements and proprietors' income is on an establishment basis and is based on the 1987 Standard Industrial Classification (SIC) beginning 1987 and on the 1972 SIC for earlier years shown.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–30.—*Disposition of personal income, 1959–98*

[Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Personal income	Less: Personal tax and nontax payments	Equals: Disposable personal income	Less: Personal outlays				Equals: Personal saving	Percent of disposable personal income[1]		
				Total	Personal consumption expenditures	Interest paid by persons	Personal transfer payments to rest of the world (net)		Personal outlays		Personal saving
									Total	Personal consumption expenditures	
1959	394.4	44.5	349.9	324.7	318.1	6.1	0.4	25.2	92.8	90.9	7.2
1960	412.5	48.7	363.8	339.6	332.2	7.0	.5	24.2	93.4	91.3	6.6
1961	430.0	50.3	379.7	350.5	342.6	7.3	.5	29.2	92.3	90.3	7.7
1962	457.0	54.8	402.2	371.8	363.4	7.8	.5	30.4	92.4	90.4	7.6
1963	480.0	58.0	422.0	392.5	383.0	8.9	.6	29.5	93.0	90.7	7.0
1964	514.5	56.0	458.5	422.1	411.4	10.0	.7	35.4	92.1	89.7	7.9
1965	556.7	61.9	494.8	456.2	444.3	11.1	.8	38.7	92.2	89.8	7.8
1966	605.7	71.0	534.7	494.7	481.9	12.0	.8	40.1	92.5	90.1	7.5
1967	650.7	77.9	572.9	523.0	509.5	12.5	1.0	49.9	91.3	88.9	8.7
1968	714.5	92.1	622.5	574.6	559.8	13.8	1.0	47.8	92.3	89.9	7.7
1969	779.3	109.9	669.4	621.4	604.7	15.7	1.1	47.9	92.8	90.3	7.2
1970	837.1	109.0	728.1	666.1	648.1	16.8	1.2	62.0	91.5	89.0	8.5
1971	900.2	108.7	791.5	721.6	702.5	17.8	1.3	69.9	91.2	88.8	8.8
1972	988.8	132.0	856.8	791.6	770.7	19.6	1.3	65.2	92.4	89.9	7.6
1973	1,107.5	140.6	967.0	875.4	851.6	22.4	1.4	91.5	90.5	88.1	9.5
1974	1,215.9	159.1	1,056.8	956.6	931.2	24.2	1.2	100.2	90.5	88.1	9.5
1975	1,319.0	156.4	1,162.6	1,054.8	1,029.1	24.5	1.2	107.8	90.7	88.5	9.3
1976	1,459.4	182.3	1,277.1	1,176.7	1,148.8	26.7	1.2	100.4	92.1	90.0	7.9
1977	1,616.1	210.0	1,406.1	1,308.9	1,277.1	30.7	1.2	97.2	93.1	90.8	6.9
1978	1,825.9	240.1	1,585.8	1,467.6	1,428.8	37.5	1.3	118.2	92.5	90.1	7.5
1979	2,055.8	280.2	1,775.7	1,639.5	1,593.5	44.5	1.4	136.2	92.3	89.7	7.7
1980	2,293.0	312.4	1,980.5	1,811.5	1,760.4	49.4	1.6	169.1	91.5	88.9	8.5
1981	2,568.5	360.2	2,208.3	2,001.1	1,941.3	54.6	5.2	207.2	90.6	87.9	9.4
1982	2,724.1	371.4	2,352.7	2,141.8	2,076.8	58.8	6.2	210.9	91.0	88.3	9.0
1983	2,894.4	369.3	2,525.1	2,355.5	2,283.4	65.5	6.5	169.7	93.3	90.4	6.7
1984	3,211.4	395.5	2,815.9	2,574.4	2,492.3	74.7	7.4	241.5	91.4	88.5	8.6
1985	3,440.9	437.7	3,003.2	2,795.8	2,704.8	83.2	7.8	207.4	93.1	90.1	6.9
1986	3,639.6	459.9	3,179.7	2,991.1	2,892.7	90.3	8.1	188.6	94.1	91.0	5.9
1987	3,877.8	514.2	3,363.6	3,194.7	3,094.5	91.5	8.7	168.9	95.0	92.0	5.0
1988	4,178.9	532.0	3,646.9	3,451.7	3,349.7	92.9	9.1	195.2	94.6	91.9	5.4
1989	4,496.4	594.9	3,901.6	3,706.7	3,594.8	102.4	9.6	194.8	95.0	92.1	5.0
1990	4,796.2	624.8	4,171.4	3,958.1	3,839.3	108.9	9.9	213.3	94.9	92.0	5.1
1991	4,965.6	624.8	4,340.9	4,097.4	3,975.1	111.9	10.4	243.5	94.4	91.6	5.6
1992	5,255.7	650.5	4,605.1	4,341.0	4,219.8	111.7	9.6	264.1	94.3	91.6	5.7
1993	5,481.0	690.0	4,791.1	4,580.7	4,459.2	108.2	13.3	210.3	95.6	93.1	4.4
1994	5,757.9	739.1	5,018.9	4,842.1	4,717.0	110.9	14.2	176.8	96.5	94.0	3.5
1995	6,072.1	795.0	5,277.0	5,097.2	4,953.9	127.6	15.7	179.8	96.6	93.9	3.4
1996	6,425.2	890.5	5,534.7	5,376.2	5,215.7	143.6	16.9	158.5	97.1	94.2	2.9
1997	6,784.0	989.0	5,795.1	5,674.1	5,493.7	161.5	18.9	121.0	97.9	94.8	2.1
1993: I	5,332.1	662.5	4,669.6	4,488.4	4,365.4	110.0	13.1	181.2	96.1	93.5	3.9
II	5,466.1	685.6	4,780.5	4,549.5	4,428.1	108.3	13.1	231.0	95.2	92.6	4.8
III	5,505.7	695.5	4,810.2	4,609.8	4,488.6	107.9	13.4	200.5	95.8	93.3	4.2
IV	5,620.3	716.4	4,903.9	4,675.2	4,554.9	106.6	13.7	228.7	95.3	92.9	4.7
1994: I	5,583.3	712.9	4,870.5	4,738.2	4,616.6	107.6	14.0	132.3	97.3	94.8	2.7
II	5,733.1	750.5	4,982.6	4,803.3	4,680.5	108.7	14.1	179.3	96.4	93.9	3.6
III	5,804.1	739.9	5,064.2	4,876.1	4,750.6	111.4	14.2	188.1	96.3	93.8	3.7
IV	5,911.2	753.0	5,158.2	4,950.7	4,820.2	116.1	14.4	207.5	96.0	93.4	4.0
1995: I	5,979.5	767.2	5,212.3	4,997.4	4,862.5	119.8	15.2	214.9	95.9	93.3	4.1
II	6,030.3	795.7	5,234.7	5,070.6	4,931.5	124.4	14.8	164.0	96.9	94.2	3.1
III	6,093.5	799.0	5,294.5	5,132.1	4,986.4	130.2	15.6	162.4	96.9	94.2	3.1
IV	6,185.0	818.3	5,366.8	5,188.8	5,035.3	136.3	17.2	178.0	96.7	93.8	3.3
1996: I	6,284.3	849.7	5,434.6	5,261.1	5,108.2	137.1	15.8	173.5	96.8	94.0	3.2
II	6,390.0	893.3	5,496.7	5,356.2	5,199.0	140.7	16.6	140.5	97.4	94.6	2.6
III	6,476.7	899.4	5,577.3	5,405.2	5,242.5	146.1	16.6	172.2	96.9	94.0	3.1
IV	6,549.8	919.7	5,630.1	5,482.5	5,313.2	150.7	18.5	147.6	97.4	94.4	2.6
1997: I	6,666.7	955.6	5,711.2	5,575.8	5,402.4	155.4	18.0	135.4	97.6	94.6	2.4
II	6,743.6	975.8	5,767.9	5,616.0	5,438.8	159.0	18.2	151.9	97.4	94.3	2.6
III	6,820.9	999.0	5,821.8	5,723.3	5,540.3	163.5	19.5	98.5	98.3	95.2	1.7
IV	6,904.9	1,025.5	5,879.4	5,781.2	5,593.2	168.2	19.8	98.2	98.3	95.1	1.7
1998: I	7,003.9	1,066.8	5,937.1	5,864.0	5,676.5	168.3	19.2	73.0	98.8	95.6	1.2
II	7,081.9	1,092.9	5,988.9	5,963.3	5,773.7	169.8	19.9	25.6	99.6	96.4	.4
III	7,160.8	1,108.4	6,052.4	6,039.8	5,846.7	173.2	20.0	12.6	99.8	96.6	.2

[1] Percents based on data in millions of dollars.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–31.—*Total and per capita disposable personal income and personal consumption expenditures in current and real dollars, 1959–98*

[Quarterly data at seasonally adjusted annual rates, except as noted]

Year or quarter	Disposable personal income				Personal consumption expenditures				Gross domestic product per capita (dollars)		Population (thousands)[1]
	Total (billions of dollars)		Per capita (dollars)		Total (billions of dollars)		Per capita (dollars)				
	Current dollars	Chained (1992) dollars	Current dollars	Chained (1992) dollars	Current dollars	Chained (1992) dollars	Current dollars	Chained (1992) dollars	Current dollars	Chained (1992) dollars	
1959	349.9	1,533.9	1,975	8,660	318.1	1,394.6	1,796	7,873	2,864	12,478	177,130
1960	363.8	1,569.2	2,013	8,681	332.2	1,432.6	1,838	7,926	2,913	12,513	180,760
1961	379.7	1,619.4	2,066	8,814	342.6	1,461.5	1,865	7,954	2,965	12,595	183,742
1962	402.2	1,697.5	2,156	9,098	363.4	1,532.8	1,948	8,220	3,136	13,156	186,590
1963	422.0	1,759.3	2,229	9,291	383.0	1,596.6	2,023	8,434	3,261	13,520	189,300
1964	458.5	1,885.8	2,389	9,825	411.4	1,692.3	2,144	8,817	3,455	14,112	191,927
1965	494.8	2,003.9	2,546	10,311	444.3	1,799.1	2,286	9,257	3,700	14,825	194,347
1966	534.7	2,110.6	2,720	10,735	481.9	1,902.0	2,451	9,674	4,007	15,612	196,599
1967	572.9	2,202.3	2,882	11,081	505.5	1,958.6	2,563	9,854	4,194	15,835	198,752
1968	622.5	2,302.1	3,101	11,468	559.8	2,070.2	2,789	10,313	4,536	16,408	200,745
1969	669.4	2,377.2	3,302	11,726	604.7	2,147.5	2,982	10,593	4,845	16,739	202,736
1970	728.1	2,469.0	3,550	12,039	648.1	2,197.8	3,160	10,717	5,050	16,566	205,089
1971	791.5	2,568.3	3,811	12,366	702.5	2,279.5	3,383	10,975	5,419	16,900	207,692
1972	856.8	2,685.7	4,082	12,794	770.7	2,415.9	3,671	11,508	5,894	17,637	209,924
1973	967.0	2,875.2	4,562	13,566	851.6	2,532.6	4,018	11,950	6,524	18,479	211,939
1974	1,056.8	2,854.2	4,941	13,344	931.2	2,514.7	4,353	11,756	6,998	18,192	213,898
1975	1,162.6	2,903.6	5,383	13,444	1,029.1	2,570.0	4,765	11,899	7,550	17,936	215,981
1976	1,277.1	3,017.6	5,856	13,837	1,148.0	2,714.3	5,268	12,446	8,341	18,721	218,086
1977	1,406.1	3,115.4	6,383	14,142	1,277.1	2,829.8	5,797	12,846	9,201	19,400	220,289
1978	1,585.6	3,276.0	7,123	14,715	1,428.8	2,951.6	6,418	13,258	10,292	20,226	222,629
1979	1,775.7	3,365.5	7,888	14,951	1,593.5	3,020.2	7,079	13,417	11,361	20,571	225,106
1980	1,980.5	3,385.7	8,697	14,967	1,760.4	3,009.7	7,730	13,216	12,226	20,265	227,726
1981	2,208.3	3,464.9	9,601	15,064	1,941.3	3,046.4	8,440	13,245	13,547	20,524	230,008
1982	2,352.7	3,491.1	10,132	15,034	2,076.8	3,081.5	8,943	13,270	13,961	19,896	232,218
1983	2,525.1	3,583.7	10,776	15,293	2,283.4	3,240.6	9,744	13,829	14,998	20,499	234,332
1984	2,815.9	3,850.0	11,912	16,286	2,492.3	3,407.6	10,543	14,415	16,508	21,744	236,394
1985	3,003.2	3,960.3	12,592	16,604	2,704.8	3,566.5	11,341	14,954	17,529	22,320	238,506
1986	3,179.7	4,076.8	13,211	16,939	2,892.7	3,708.7	12,019	15,409	18,374	22,801	240,682
1987	3,363.6	4,154.7	13,851	17,109	3,094.5	3,822.3	12,743	15,740	19,323	23,264	242,842
1988	3,646.9	4,325.3	14,881	17,650	3,349.7	3,972.7	13,669	16,211	20,605	23,934	245,061
1989	3,901.6	4,411.7	15,771	17,833	3,594.8	4,064.6	14,531	16,430	21,984	24,504	247,387
1990	4,171.4	4,489.6	16,689	17,962	3,839.3	4,132.2	15,360	16,532	22,979	24,549	249,956
1991	4,340.9	4,483.5	17,179	17,744	3,975.1	4,105.8	15,732	16,249	23,416	24,060	252,680
1992	4,605.1	4,605.1	18,029	18,029	4,219.8	4,219.8	16,520	16,520	24,447	24,447	255,432
1993	4,791.1	4,666.7	18,553	18,077	4,459.2	4,343.6	17,273	16,825	25,403	24,750	258,161
1994	5,018.9	4,772.9	19,251	18,308	4,717.0	4,486.0	18,093	17,207	26,647	25,357	260,705
1995	5,277.0	4,906.0	20,050	18,640	4,953.9	4,605.6	18,822	17,499	27,621	25,691	263,194
1996	5,534.7	5,043.0	20,840	18,989	5,215.7	4,752.4	19,639	17,894	28,849	26,338	265,579
1997	5,795.1	5,193.1	21,633	19,349	5,493.7	4,913.5	20,508	18,342	30,278	27,138	267,880
1993:I	4,669.6	4,585.6	18,159	17,832	4,365.4	4,286.8	16,976	16,671	25,061	24,608	257,151
II	4,780.5	4,666.8	18,545	18,104	4,428.1	4,322.8	17,177	16,769	25,250	24,671	257,795
III	4,810.2	4,679.5	18,607	18,101	4,488.6	4,366.6	17,363	16,891	25,432	24,732	258,516
IV	4,903.9	4,735.0	18,920	18,268	4,554.9	4,398.0	17,574	16,968	25,866	24,989	259,191
1994:I	4,807.5	4,683.6	18,752	18,032	4,616.6	4,439.4	17,774	17,092	26,158	25,120	259,738
II	4,982.6	4,760.9	19,138	18,286	4,680.5	4,472.2	17,978	17,178	26,546	25,352	260,351
III	5,064.2	4,795.2	19,400	18,369	4,750.6	4,498.2	18,199	17,232	26,764	25,396	261,040
IV	5,158.2	4,852.1	19,711	18,541	4,820.2	4,534.1	18,419	17,326	27,115	25,559	261,692
1995:I	5,212.3	4,883.0	19,876	18,621	4,862.5	4,555.3	18,542	17,371	27,345	25,616	262,235
II	5,234.7	4,876.0	19,915	18,551	4,931.5	4,593.6	18,762	17,476	27,434	25,582	262,847
III	5,294.5	4,909.1	20,091	18,628	4,986.4	4,623.4	18,922	17,544	27,719	25,726	263,527
IV	5,366.9	4,956.1	20,316	18,761	5,035.3	4,650.0	19,061	17,602	27,982	25,839	264,169
1996:I	5,434.6	4,992.0	20,533	18,860	5,108.2	4,692.1	19,299	17,727	28,318	26,001	264,680
II	5,496.7	5,018.4	20,752	18,919	5,199.0	4,746.6	19,600	17,894	28,761	26,329	265,258
III	5,577.3	5,072.8	20,976	19,079	5,242.5	4,768.3	19,717	17,934	28,972	26,402	265,887
IV	5,630.1	5,089.0	21,127	19,096	5,313.2	4,802.6	19,938	18,021	29,338	26,617	266,491
1997:I	5,711.2	5,130.8	21,391	19,217	5,402.4	4,853.4	20,235	18,178	29,795	26,843	266,987
II	5,767.9	5,167.5	21,558	19,315	5,438.8	4,872.7	20,329	18,213	30,138	27,048	267,545
III	5,821.8	5,198.4	21,709	19,385	5,540.3	4,947.0	20,660	18,447	30,468	27,263	268,171
IV	5,879.4	5,235.8	21,871	19,479	5,593.2	4,981.0	20,807	18,529	30,707	27,397	268,815
1998:I	5,937.1	5,287.1	22,046	19,632	5,676.5	5,055.1	21,078	18,770	31,132	27,718	269,309
II	5,988.9	5,321.5	22,192	19,719	5,773.7	5,130.2	21,394	19,010	31,277	27,786	269,867
III	6,052.4	5,364.1	22,373	19,829	5,846.7	5,181.8	21,612	19,155	31,561	27,970	270,523

[1] Population of the United States including Armed Forces overseas; includes Alaska and Hawaii beginning 1960. Annual data are averages of quarterly data. Quarterly data are averages for the period.

Source: Department of Commerce (Bureau of Economic Analysis and Bureau of the Census).

TABLE B–32.—*Gross saving and investment, 1959–98*

[Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross saving													Capital grants received by the United States (net)[3]
	Total	Gross private saving					Gross government saving							
		Total	Personal saving	Gross business saving			Total	Federal			State and local			
				Total[1]	Undistributed corporate profits[2]	Corporate and noncorporate consumption of fixed capital		Total	Consumption of fixed capital	Current surplus or deficit (–)	Total	Consumption of fixed capital	Current surplus or deficit (–)	
1959	108.5	82.3	25.2	57.1	16.5	40.5	26.2	12.8	10.2	2.6	13.5	3.9	9.6	
1960	113.4	81.6	24.2	57.4	15.3	42.1	31.8	17.8	10.5	7.4	14.0	4.0	9.9	
1961	116.3	88.0	29.2	58.8	15.7	43.1	28.3	13.6	10.7	2.9	14.7	4.3	10.4	
1962	126.8	96.5	30.4	66.1	21.5	44.6	30.3	14.0	11.2	2.8	16.3	4.6	11.7	
1963	134.9	99.8	29.5	70.2	24.0	46.2	35.1	17.2	11.8	5.4	17.9	4.9	13.0	
1964	145.3	112.3	36.4	75.9	27.3	48.7	32.9	13.0	12.1	.9	19.9	5.2	14.7	
1965	160.4	123.8	38.7	85.1	33.1	52.0	36.6	15.9	12.5	3.4	20.8	5.7	15.1	
1966	171.1	131.9	40.1	91.9	35.2	56.7	39.2	15.6	13.0	2.6	23.5	6.3	17.3	
1967	173.8	144.1	49.9	94.2	32.7	61.5	29.7	5.6	13.9	–8.3	24.1	6.8	17.3	
1968	185.1	145.4	47.8	97.6	30.2	67.3	39.7	12.0	14.9	–2.8	27.6	7.6	20.0	
1969	202.1	148.2	47.9	100.3	26.0	74.2	53.9	24.3	15.6	8.7	29.6	8.5	21.1	
1970	197.3	163.8	62.0	101.8	20.7	81.2	32.6	2.2	16.2	–14.1	30.4	9.6	20.8	0.9
1971	214.3	189.7	69.9	119.8	30.5	88.9	23.9	–8.5	16.9	–25.3	32.4	10.7	21.7	.7
1972	243.9	201.7	65.2	136.5	39.0	97.8	41.5	–2.4	18.2	–20.5	43.9	11.7	32.2	.7
1973	296.4	241.3	91.5	149.7	42.7	107.1	55.1	8.7	19.9	–11.1	46.4	13.0	33.4	0
1974	301.2	251.7	100.2	151.5	27.0	124.5	51.5	5.1	22.0	–16.9	46.5	16.0	30.5	6–2.0
1975	297.3	301.2	107.8	193.5	47.2	146.3	–3.9	–49.9	24.0	–73.9	46.0	18.4	27.6	0
1976	340.0	316.5	100.4	216.1	54.8	161.3	23.5	–31.9	25.4	–57.2	55.3	19.4	35.9	0
1977	394.7	348.6	97.2	251.4	70.5	181.0	46.1	–19.3	27.0	–46.3	65.4	20.7	44.7	0
1978	476.9	404.5	118.2	286.3	79.5	206.8	72.4	–2.8	28.9	–31.7	75.1	22.5	52.6	0
1979	540.6	448.8	136.2	312.5	72.6	239.9	90.7	13.0	31.5	–18.4	77.7	25.4	52.3	1.1
1980	547.2	489.2	169.1	320.1	44.1	276.0	56.8	–26.8	34.1	–61.0	83.6	29.2	54.4	1.2
1981	650.8	581.7	207.2	374.4	56.4	318.1	68.1	–20.6	37.1	–57.8	88.7	33.3	55.4	1.1
1982	604.3	609.6	210.9	398.7	52.5	346.2	–5.3	–92.8	41.9	–134.7	87.5	36.2	51.3	0
1983	589.0	618.4	169.7	448.7	83.6	365.2	–29.4	–131.8	42.6	–174.4	102.4	37.5	64.9	0
1984	750.7	736.7	241.5	495.2	116.8	378.4	14.0	–111.9	44.1	–156.0	125.9	39.0	86.9	0
1985	745.6	730.5	207.4	523.1	123.6	399.4	15.2	–116.9	46.1	–162.9	132.0	41.0	91.0	0
1986	719.8	708.9	188.6	520.3	95.9	424.4	10.8	–127.9	49.6	–177.5	138.8	43.9	94.9	0
1987	779.6	726.0	168.9	557.1	110.0	447.1	53.6	–77.2	51.7	–128.9	130.8	47.1	83.8	0
1988	876.0	807.2	195.2	612.0	134.0	478.0	68.8	–67.0	54.3	–121.3	135.8	49.9	85.9	0
1989	906.3	814.3	194.8	619.5	104.3	515.1	92.0	–56.4	57.0	–113.4	148.4	53.3	95.1	0
1990	903.1	860.3	213.3	647.0	112.7	534.3	42.7	–94.0	60.7	–154.7	136.7	56.6	80.1	0
1991	934.0	930.6	243.5	687.1	130.8	556.4	3.3	–132.2	63.9	–196.0	135.5	59.6	75.8	0
1992	904.3	970.7	264.1	706.6	137.1	585.4	–65.5	–215.0	65.9	–280.9	148.6	62.3	86.3	0
1993	949.5	979.3	210.3	769.0	170.1	594.5	–29.8	–182.7	67.9	–250.7	152.9	65.5	87.4	0
1994	1,079.2	1,030.2	176.8	853.4	201.4	638.6	49.0	–117.2	69.5	–186.7	166.2	69.4	96.8	0
1995	1,187.4	1,106.2	179.8	926.4	256.1	657.0	81.2	–103.7	70.7	–174.4	184.8	73.2	111.7	0
1996	1,274.5	1,114.5	158.5	956.0	262.4	684.3	160.0	–39.6	70.6	–110.3	199.6	77.1	122.6	0
1997	1,406.3	1,141.6	121.0	1,020.6	296.7	720.1	264.7	49.5	70.6	–21.1	215.2	81.1	134.1	0
1993:I	932.0	1,001.1	181.2	819.9	159.2	590.5	–69.1	–211.2	67.0	–278.2	142.1	64.3	77.8	0
II	942.1	977.3	231.0	746.3	158.3	588.0	–35.2	–181.7	67.5	–249.2	146.5	65.2	81.3	0
III	943.8	973.3	200.5	772.8	171.8	601.1	–29.4	–182.2	68.4	–250.6	152.7	65.8	86.9	0
IV	980.1	965.6	228.7	736.9	191.0	598.1	14.5	–155.8	68.8	–224.6	170.4	66.6	103.7	0
1994:I	1,062.4	1,048.6	132.3	916.3	178.7	685.2	13.8	–139.9	69.1	–209.0	153.7	69.0	84.7	0
II	1,065.5	995.7	179.3	816.4	201.2	614.9	69.7	–93.6	69.6	–163.2	163.3	68.5	94.8	0
III	1,071.0	1,021.2	188.1	833.1	209.5	623.3	49.7	–118.3	69.3	–187.6	168.0	69.6	98.4	0
IV	1,118.0	1,055.3	207.5	847.8	216.2	631.2	62.7	–117.0	69.8	–186.8	179.7	70.4	109.3	0
1995:I	1,161.5	1,098.7	214.9	883.8	229.3	641.1	62.8	–119.4	70.3	–189.6	182.1	71.7	110.4	0
II	1,153.8	1,075.8	164.0	911.8	247.3	651.1	78.0	–107.2	70.7	–177.9	185.2	72.6	112.6	0
III	1,190.4	1,110.0	162.4	947.6	275.0	659.2	80.4	–106.2	70.7	–176.9	186.6	73.6	113.0	0
IV	1,224.0	1,140.5	178.0	962.5	272.7	676.4	103.5	–82.0	71.0	–153.0	185.4	74.7	110.7	0
1996:I	1,233.0	1,119.4	173.5	945.9	264.4	672.2	113.6	–79.4	70.7	–150.1	193.0	75.7	117.3	0
II	1,255.3	1,091.6	140.5	951.1	262.6	679.2	163.7	–41.9	70.7	–112.6	205.6	76.5	129.1	0
III	1,298.8	1,128.6	172.2	956.4	258.7	688.5	170.2	–29.6	70.5	–100.1	199.8	77.5	122.3	0
IV	1,311.0	1,118.4	147.6	970.8	264.2	697.3	192.5	–7.6	70.7	–78.3	200.2	78.5	121.7	0
1997:I	1,353.9	1,126.3	135.4	990.9	281.4	705.8	227.5	19.6	70.8	–51.2	207.9	79.5	128.4	0
II	1,416.3	1,169.5	151.9	1,017.6	299.0	715.0	246.9	36.1	70.9	–34.8	210.7	80.6	130.1	0
III	1,427.0	1,139.0	98.5	1,040.5	311.5	725.2	288.0	70.0	70.3	–.3	218.0	81.4	136.6	0
IV	1,428.0	1,131.6	98.2	1,033.4	295.0	734.7	296.4	72.3	70.2	2.2	224.1	82.7	141.4	0
1998:I	1,482.5	1,130.1	73.0	1,057.1	312.0	741.1	352.4	128.7	69.9	58.8	223.7	83.5	140.2	0
II	1,448.5	1,079.0	25.6	1,053.4	300.9	748.5	369.4	143.9	69.5	74.4	225.6	84.3	141.3	0
III	1,474.5	1,078.7	12.6	1,066.1	304.8	757.3	395.7	161.6	69.6	92.0	234.2	85.4	148.7	0

[1] Includes private wage accruals less disbursements not shown separately.
[2] With inventory valuation and capital consumption adjustments.
[3] Consists mainly of allocations of special drawing rights (SDRs).

See next page for continuation of table.

TABLE B–32.—*Gross saving and investment, 1959–98*—Continued

[Billions of dollars except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross investment				Statistical discrepancy	Addenda:	
	Total	Gross private domestic investment	Gross government investment [4]	Net foreign investment [5]		Gross saving as a percent of gross national product	Personal saving as a percent of disposable personal income
1959	106.9	78.8	29.3	–1.2	–1.6	21.3	7.2
1960	110.2	78.8	28.2	3.2	–3.2	21.4	6.6
1961	113.5	77.9	31.3	4.3	–2.8	21.2	7.7
1962	125.0	87.9	33.2	3.9	–1.8	21.5	7.6
1963	131.9	93.4	33.5	5.0	–3.0	21.7	7.0
1964	143.8	101.7	34.5	7.5	–1.5	21.7	7.9
1965	159.6	118.0	35.4	6.2	–.8	22.1	7.8
1966	174.4	130.4	40.1	3.9	3.3	21.6	7.5
1967	175.1	128.0	43.5	3.5	1.3	20.7	8.7
1968	186.0	139.9	44.3	1.7	.9	20.2	7.7
1969	200.7	155.0	43.9	1.8	–1.5	20.5	7.2
1970	199.1	150.2	44.0	4.9	1.9	18.9	8.5
1971	220.4	176.0	43.1	1.3	6.1	18.9	8.8
1972	248.1	205.6	45.4	–2.9	4.3	19.6	7.6
1973	299.9	242.9	48.3	8.7	3.4	21.2	9.5
1974	306.7	245.6	56.0	5.1	5.5	19.9	9.5
1975	309.5	225.4	62.7	21.4	12.1	18.1	9.3
1976	359.9	286.6	64.4	8.9	19.9	18.5	7.9
1977	413.0	356.6	65.4	–9.0	18.2	19.3	6.9
1978	494.9	430.8	74.6	–10.4	18.1	20.6	7.5
1979	568.7	480.9	85.3	2.6	28.2	20.9	7.7
1980	574.8	465.9	96.4	12.5	27.6	19.4	8.5
1981	665.7	556.2	102.1	7.4	14.9	20.7	9.4
1982	601.8	501.1	106.9	–6.1	–2.5	18.5	9.0
1983	626.2	547.1	116.5	–37.3	37.1	16.6	6.7
1984	755.7	715.6	131.7	–91.5	5.0	19.1	8.6
1985	748.0	715.1	149.9	–116.9	2.4	17.7	6.9
1986	743.1	722.5	163.5	–142.9	23.3	16.2	5.9
1987	764.2	747.2	173.5	–156.4	–15.4	16.6	5.0
1988	828.7	773.9	172.9	–118.1	–47.3	17.3	5.4
1989	919.5	829.2	182.7	–92.4	13.2	16.6	5.0
1990	920.5	799.7	199.4	–78.6	17.4	15.7	5.1
1991	944.0	736.2	200.5	7.3	10.1	15.7	5.6
1992	949.1	790.4	209.1	–50.5	44.8	14.5	5.7
1993	1,002.1	876.2	204.5	–78.6	52.6	14.4	4.4
1994	1,093.8	1,007.9	205.9	–120.0	14.6	15.5	3.5
1995	1,160.9	1,043.2	218.3	–100.6	–26.5	16.3	3.4
1996	1,242.3	1,131.9	229.7	–119.2	–32.2	16.6	2.9
1997	1,350.5	1,256.0	235.4	–140.9	–55.8	17.4	2.1
1993: I	1,003.0	854.3	202.9	–54.2	71.0	14.4	3.9
II	989.0	857.4	206.5	–74.9	46.9	14.4	4.8
III	991.3	872.8	203.4	–84.9	47.5	14.3	4.2
IV	1,025.1	920.3	205.2	–100.4	45.0	14.6	4.7
1994: I	1,068.7	963.4	197.0	–91.6	6.3	15.6	2.7
II	1,107.8	1,017.9	202.4	–112.5	42.4	15.4	3.6
III	1,086.2	1,007.1	213.2	–134.2	15.2	15.3	3.7
IV	1,112.6	1,043.1	211.2	–141.8	–5.4	15.8	4.0
1995: I	1,164.6	1,058.9	216.3	–110.7	3.1	16.2	4.1
II	1,131.1	1,029.6	219.6	–118.0	–22.7	16.0	3.1
III	1,147.3	1,030.6	216.8	–100.1	–43.0	16.3	3.1
IV	1,200.8	1,053.6	220.7	–73.5	–43.2	16.8	3.3
1996: I	1,206.7	1,075.3	229.2	–97.8	–26.3	16.4	3.2
II	1,234.7	1,118.3	231.3	–114.9	–20.6	16.4	2.6
III	1,249.5	1,167.9	227.9	–146.2	–49.3	16.8	3.1
IV	1,278.3	1,166.0	230.3	–118.0	–32.6	16.7	2.6
1997: I	1,310.8	1,206.4	235.3	–130.9	–43.1	17.0	2.4
II	1,368.6	1,259.9	232.6	–123.9	–47.7	17.6	2.6
III	1,361.9	1,265.7	237.3	–141.0	–65.1	17.5	1.7
IV	1,360.7	1,292.0	236.5	–167.8	–67.3	17.3	1.7
1998: I	1,428.4	1,366.6	237.4	–175.6	–54.1	17.7	1.2
II	1,362.7	1,345.0	232.5	–214.8	–85.7	17.2	.4
III	1,372.5	1,364.4	239.7	–231.6	–102.0	17.3	.2

[4] For details on government investment, see Table B–20.

[5] Net exports of goods and services plus net receipts of factor income from rest of the world less net transfers plus net capital grants received by the United States. See also Table B–24.

[6] Consists of a U.S. payment to India under the Agricultural Trade Development and Assistance Act. This payment is included in capital grants received by the United States, net.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–33.—*Median money income (in 1997 dollars) and poverty status of families and persons, by race, selected years, 1979–97*

Year	Families[1]						Persons below poverty level		Median money income (in 1997 dollars) of persons 15 years old and over with income[2,3]			
			Below poverty level						Males		Females	
	Number (millions)	Median money income (in 1997 dollars)[2]	Total		Female householder		Number (millions)	Percent	All persons	Year-round full-time workers	All persons	Year-round full-time workers
			Number (millions)	Percent	Number (millions)	Percent						
ALL RACES												
1979[4]	59.6	$42,483	5.5	9.2	2.6	30.4	26.1	11.7	$25,548	$37,911	$9,439	$22,841
1980	60.3	40,999	6.2	10.3	3.0	32.7	29.3	13.0	24,436	37,391	9,595	22,605
1981	61.0	39,881	6.9	11.2	3.3	34.6	31.8	14.0	24,000	36,860	9,723	22,190
1982	61.4	39,341	7.5	12.2	3.4	36.3	34.4	15.0	23,420	36,356	9,884	22,938
1983[5]	62.0	39,761	7.6	12.3	3.6	36.0	35.3	15.2	23,625	36,267	10,321	23,347
1984	62.7	40,832	7.3	11.6	3.5	34.5	33.7	14.4	24,098	37,080	10,609	23,823
1985	63.6	41,371	7.2	11.4	3.5	34.0	33.1	14.0	24,330	37,289	10,765	24,242
1986	64.5	43,139	7.0	10.9	3.6	34.6	32.4	13.6	25,062	37,920	11,144	24,665
1987[6]	65.2	43,756	7.0	10.7	3.7	34.2	32.2	13.4	25,129	37,696	11,720	24,815
1988	65.8	43,674	6.9	10.4	3.6	33.4	31.7	13.0	25,653	37,095	12,053	25,160
1989	66.1	44,284	6.8	10.3	3.5	32.2	31.5	12.8	25,749	36,784	12,457	25,419
1990	66.3	43,414	7.1	10.7	3.8	33.4	33.6	13.5	24,920	35,586	12,366	25,286
1991	67.2	42,351	7.7	11.5	4.2	35.6	35.7	14.2	24,121	35,742	12,345	25,035
1992[7]	68.2	41,839	8.1	11.9	4.3	35.4	38.0	14.8	23,400	35,271	12,257	25,274
1993	68.5	41,051	8.4	12.3	4.4	35.6	39.3	15.1	23,439	34,518	12,269	24,957
1994	69.3	42,001	8.1	11.6	4.2	34.6	38.1	14.5	23,523	34,236	12,418	25,196
1995	69.6	42,769	7.5	10.8	4.1	32.4	36.4	13.8	23,761	33,910	12,775	25,041
1996	70.2	43,271[r]	7.7	11.0	4.2	32.6	36.5	13.7	24,381	34,308	13,109	25,507
1997	70.9	44,56o	7.3	10.3	4.0	31.6	35.6	13.3	25,212	35,248	13,703	26,029
WHITE												
1979[4]	52.2	44,331	3.6	6.9	1.4	22.3	17.2	9.0	26,689	39,006	9,528	23,040
1980	52.7	42,717	4.2	8.0	1.6	25.7	19.7	10.2	25,992	38,458	9,648	22,823
1981	53.3	41,892	4.7	8.8	1.8	27.4	21.6	11.1	25,466	37,726	9,831	22,561
1982	53.4	41,305	5.1	9.6	1.8	27.9	23.5	12.0	24,760	37,325	10,018	23,247
1983[5]	53.9	41,635	5.2	9.7	1.9	28.3	24.0	12.1	24,855	37,236	10,502	23,659
1984	54.4	42,768	4.9	9.1	1.9	27.1	23.0	11.5	25,437	38,350	10,734	24,060
1985	55.0	43,484	5.0	9.1	2.0	27.4	22.9	11.4	25,523	38,325	10,974	24,585
1986	55.7	45,117	4.8	8.6	2.0	28.2	22.2	11.0	26,447	38,978	11,364	25,043
1987[6]	56.1	45,755	4.6	8.1	2.0	26.9	21.2	10.4	26,710	38,575	12,019	25,275
1988	56.5	46,013	4.5	7.9	1.9	26.5	20.7	10.1	27,079	38,344	12,350	25,538
1989	56.6	46,564	4.4	7.8	1.9	25.4	20.8	10.0	27,004	38,406	12,700	25,720
1990	56.8	45,332	4.6	8.1	2.0	26.8	22.3	10.7	25,997	36,940	12,669	25,590
1991	57.2	44,524	5.0	8.8	2.2	28.4	23.7	11.3	25,212	36,475	12,634	25,401
1992[7]	57.7	44,238	5.3	9.1	2.2	28.5	25.3	11.9	24,488	36,110	12,541	25,567
1993	57.9	43,652	5.5	9.4	2.4	29.2	26.2	12.2	24,415	35,357	12,513	25,523
1994	58.4	44,277	5.3	9.1	2.3	29.0	25.4	11.7	24,550	35,132	12,595	25,877
1995	58.9	44,913	5.0	8.5	2.2	26.6	24.4	11.2	25,165	35,296	12,971	25,554
1996	58.9	45,783	5.1	8.6	2.3	27.3	24.7	11.2	25,521	35,538	13,258	25,940
1997	59.5	46,754	5.0	8.4	2.3	27.7	24.4	11.0	26,115	36,118	13,792	26,470
BLACK												
1979[4]	6.2	25,103	1.7	27.6	1.2	49.4	8.1	31.0	16,521	28,111	8,671	21,112
1980	6.3	24,717	1.8	28.9	1.3	49.4	8.6	32.5	15,615	27,059	8,932	21,286
1981	6.4	23,631	2.0	30.8	1.4	52.9	9.2	34.2	15,143	26,692	8,734	20,375
1982	6.5	22,829	2.2	33.0	1.5	56.2	9.7	35.6	14,838	26,509	8,836	20,778
1983[5]	6.7	23,464	2.2	32.3	1.5	53.7	9.9	35.7	14 535	26,549	8,974	21,002
1984	6.8	23,837	2.1	30.9	1.5	51.7	9.5	33.8	14,595	26,173	9,522	21,682
1985	6.9	25,039	2.0	28.7	1.5	50.5	8.9	31.3	16,062	26,806	9,363	21,763
1986	7.1	25,780	2.0	28.0	1.5	50.1	9.0	31.1	15,848	27,481	9,615	21,914
1987[6]	7.2	26,005	2.1	29.4	1.6	51.1	9.5	32.4	15,845	27,582	9,818	22,575
1988	7.4	26,224	2.1	28.2	1.6	49.0	9.4	31.3	16,340	28,106	9,971	22,884
1989	7.5	26,158	2.1	27.8	1.5	46.5	9.3	30.7	16,321	26,798	10,193	23,131
1990	7.5	26,308	2.2	29.3	1.6	48.1	9.8	31.9	15,802	26,379	10,227	22,772
1991	7.7	25,392	2.3	30.4	1.8	51.2	10.2	32.7	15,275	26,665	10,389	22,548
1992[7]	8.0	24,141	2.5	31.1	1.9	50.2	10.8	33.4	14,945	26,301	10,167	23,175
1993	8.0	23,927	2.5	31.3	1.9	49.9	10.9	33.1	16,222	26,175	10,561	22,564
1994	8.1	26,748	2.2	27.3	1.7	46.2	10.2	30.6	16,225	26,431	11,419	22,340
1995	8.1	27,350	2.1	26.4	1.7	45.1	9.9	29.3	16,857	26,116	11,544	22,199
1996	8.5	27,131	2.2	26.1	1.7	43.7	9.7	28.4	16,869	27,759	12,042	22,495
1997	8.4	28,602	2.0	23.6	1.6	39.8	9.1	26.5	18,096	26,897	13,048	22,764

[1]The term "family" refers to a group of two or more persons related by birth, marriage, or adoption and residing together. Every family must include a reference person. Beginning 1979, based on householder concept and restricted to primary families.
[2]Current dollar median money income adjusted by CPI–U–X1.
[3]Prior to 1979, data are for persons 14 years and over.
[4]Based on 1980 census population controls; comparable with succeeding years.
[5]Reflects implementation of Hispanic population controls; comparable with succeeding years.
[6]Based on revised methodology; comparable with succeeding years.
[7]Based on 1990 census adjusted population controls; comparable with succeeding years.

Note.—Poverty rates (percent of persons below poverty level) for all races for years not shown above are: 1959, 22.4; 1960, 22.2; 1961, 21.9; 1962, 21.0; 1963, 19.5; 1964, 19.0; 1965, 17.3; 1966, 14.7; 1967, 14.2; 1968, 12.8; 1969, 12.1; 1970, 12.6; 1971, 12.5; 1972, 11.9; 1973, 11.1; 1974, 11.2; 1975, 12.3; 1976, 11.8; 1977, 11.6; and 1978, 11.4.

Poverty thresholds are updated each year to reflect changes in the consumer price index (CPI–U).

For details see "Current Population Reports," Series P–60.

Source: Department of Commerce, Bureau of the Census.

TABLE B–34.—*Population by age group, 1929–98*

[Thousands of persons]

July 1	Total	Age (years)						
		Under 5	5–15	16–19	20–24	25–44	45–64	65 and over
1929	121,767	11,734	26,800	9,127	10,694	35,862	21,076	6,474
1933	125,579	10,612	26,897	9,302	11,152	37,319	22,933	7,363
1939	130,880	10,418	25,179	9,822	11,519	39,354	25,823	8,764
1940	132,122	10,579	24,811	9,895	11,690	39,868	26,249	9,031
1941	133,402	10,850	24,516	9,840	11,807	40,383	26,718	9,288
1942	134,860	11,301	24,231	9,730	11,555	40,861	27,196	9,584
1943	136,739	12,016	24,093	9,607	12,064	41,420	27,671	9,867
1944	138,397	12,524	23,949	9,561	12,062	42,016	28,138	10,147
1945	139,928	12,979	23,907	9,361	12,036	42,521	28,630	10,494
1946	141,389	13,244	24,103	9,119	12,004	43,027	29,064	10,828
1947	144,126	14,406	24,468	9,097	11,814	43,657	29,498	11,185
1948	146,631	14,919	25,209	8,952	11,794	44,288	29,931	11,538
1949	149,188	15,607	25,852	8,788	11,700	44,916	30,405	11,921
1950	152,271	16,410	26,721	8,542	11,680	45,672	30,849	12,397
1951	154,878	17,333	27,279	8,446	11,552	46,103	31,362	12,803
1952	157,553	17,312	28,894	8,414	11,350	46,495	31,884	13,203
1953	160,184	17,638	30,227	8,460	11,062	46,786	32,394	13,617
1954	163,026	18,057	31,480	8,637	10,832	47,001	32,942	14,076
1955	165,931	18,566	32,682	8,744	10,714	47,194	33,506	14,525
1956	168,903	19,003	33,994	8,916	10,616	47,379	34,057	14,938
1957	171,984	19,494	35,272	9,195	10,603	47,440	34,591	15,388
1958	174,882	19,887	36,445	9,543	10,756	47,337	35,109	15,806
1959	177,830	20,175	37,368	10,215	10,969	47,192	35,663	16,248
1960	180,671	20,341	38,494	10,683	11,134	47,140	36,203	16,675
1961	183,691	20,522	39,765	11,025	11,483	47,084	36,722	17,089
1962	186,538	20,469	41,205	11,180	11,959	47,013	37,255	17,457
1963	189,242	20,342	41,626	12,007	12,714	46,994	37,782	17,778
1964	191,889	20,165	42,297	12,736	13,269	46,958	38,338	18,127
1965	194,303	19,824	42,938	13,516	13,746	46,912	38,916	18,451
1966	196,560	19,208	43,702	14,311	14,050	47,001	39,534	18,755
1967	198,712	18,563	44,244	14,200	15,248	47,194	40,193	19,071
1968	200,706	17,913	44,622	14,452	15,786	47,721	40,846	19,365
1969	202,677	17,376	44,840	14,800	16,480	48,064	41,437	19,680
1970	205,052	17,166	44,816	15,289	17,202	48,473	41,999	20,107
1971	207,661	17,244	44,591	15,688	18,159	48,936	42,482	20,561
1972	209,896	17,101	44,203	16,039	18,153	50,482	42,898	21,020
1973	211,909	16,851	43,582	16,446	18,521	51,749	43,235	21,525
1974	213,854	16,487	42,989	16,769	18,975	53,051	43,522	22,061
1975	215,973	16,121	42,508	17,017	19,527	54,302	43,801	22,696
1976	218,035	15,617	42,099	17,194	19,986	55,852	44,008	23,278
1977	220,239	15,564	41,298	17,276	20,499	57,561	44,150	23,892
1978	222,585	15,735	40,428	17,288	20,946	59,400	44,286	24,502
1979	225,055	16,063	39,552	17,242	21,297	61,379	44,390	25,134
1980	227,726	16,451	38,838	17,167	21,590	63,470	44,504	25,707
1981	229,966	16,893	38,144	16,812	21,869	65,528	44,500	26,221
1982	232,188	17,228	37,784	16,332	21,902	67,692	44,462	26,787
1983	234,307	17,547	37,526	15,823	21,844	69,733	44,474	27,361
1984	236,348	17,695	37,461	15,295	21,737	71,735	44,547	27,878
1985	238,466	17,842	37,450	15,005	21,478	73,673	44,602	28,416
1986	240,651	17,963	37,404	15,024	20,942	75,651	44,660	29,008
1987	242,804	18,052	37,333	15,215	20,385	77,338	44,854	29,626
1988	245,021	18,195	37,593	15,198	19,846	78,595	45,471	30,124
1989	247,342	18,508	37,972	14,913	19,442	79,943	45,882	30,682
1990	249,949	18,851	38,588	14,461	19,309	81,207	46,294	31,237
1991	252,636	19,187	39,146	13,970	19,357	82,444	46,766	31,766
1992	255,382	19,489	39,802	13,736	19,211	82,516	48,355	32,273
1993	258,089	19,670	40,386	13,879	18,949	82,831	49,595	32,779
1994	260,602	19,694	41,009	14,122	18,553	83,155	50,906	33,164
1995	263,039	19,526	41,666	14,379	18,136	83,513	52,258	33,560
1996	265,453	19,324	42,157	14,874	17,650	83,847	53,734	33,867
1997	267,901	19,150	42,648	15,211	17,594	83,771	55,452	34,076
1998	270,290	19,020	42,970	15,599	17,768	83,418	57,247	34,269

Note.—Includes Armed Forces overseas beginning 1940. Includes Alaska and Hawaii beginning 1950.
All estimates are consistent with decennial census enumerations.

Source: Department of Commerce, Bureau of the Census.

TABLE B–35.—*Civilian population and labor force, 1929–98*

[Monthly data seasonally adjusted, except as noted]

Year or month	Civilian noninstitutional population[1]	Civilian labor force				Not in labor force	Civilian labor force participation rate[2]	Civilian employment/population ratio[3]	Unemployment rate, civilian workers[4]
		Total	Employment		Unemployment				
			Total	Agricultural	Nonagricultural				
	Thousands of persons 14 years of age and over						Percent		
1929	.....	49,180	47,630	10,450	37,180	1,550	.....	.....	3.2
1933	.....	51,590	38,760	10,090	28,670	12,830	.....	.....	24.9
1939	.....	55,230	45,750	9,610	36,140	9,480	.....	.....	17.2
1940	99,840	55,640	47,520	9,540	37,980	8,120	44,200	55.7	47.6	14.6
1941	99,900	55,910	50,350	9,100	41,250	5,560	43,990	56.0	50.4	9.9
1942	98,640	56,410	53,750	9,250	44,500	2,660	42,230	57.2	54.5	4.7
1943	94,640	55,540	54,470	9,080	45,390	1,070	39,100	58.7	57.6	1.9
1944	93,220	54,630	53,960	8,950	45,010	670	38,550	58.6	57.9	1.2
1945	94,090	53,860	52,820	8,580	44,240	1,040	40,230	57.2	56.1	1.9
1946	103,070	57,520	55,250	8,320	46,930	2,270	45,550	55.8	53.6	3.9
1947	106,018	60,168	57,812	8,256	49,557	2,356	45,850	56.8	54.5	3.9
	Thousands of persons 16 years of age and over									
1947	101,827	59,350	57,038	7,890	49,148	2,311	42,477	58.3	56.0	3.9
1948	103,068	60,621	58,343	7,629	50,714	2,276	42,447	58.8	56.6	3.8
1949	103,994	61,286	57,651	7,658	49,993	3,637	42,708	58.9	55.4	5.9
1950	104,995	62,208	58,918	7,160	51,758	3,288	42,787	59.2	56.1	5.3
1951	104,621	62,017	59,961	6,726	53,235	2,055	42,604	59.2	57.3	3.3
1952	105,231	62,138	60,250	6,500	53,749	1,883	43,093	59.0	57.3	3.0
1953[5]	107,056	63,015	61,179	6,260	54,919	1,834	44,041	58.9	57.1	2.9
1954	108,321	63,643	60,109	6,205	53,904	3,532	44,678	58.8	55.5	5.5
1955	109,683	65,023	62,170	6,450	55,722	2,852	44,660	59.3	56.7	4.4
1956	110,954	66,552	63,799	6,283	57,514	2,750	44,402	60.0	57.5	4.1
1957	112,265	66,929	64,071	5,947	58,123	2,859	45,336	59.6	57.1	4.3
1958	113,727	67,639	63,036	5,586	57,450	4,602	46,088	59.5	55.4	6.8
1959	115,329	68,369	64,630	5,565	59,065	3,740	46,960	59.3	56.0	5.5
1960[5]	117,245	69,628	65,778	5,458	60,318	3,852	47,617	59.4	56.1	5.5
1961	118,771	70,459	65,746	5,200	60,546	4,714	48,312	59.3	55.4	6.7
1962[5]	120,153	70,614	66,702	4,944	61,759	3,911	49,539	58.8	55.5	5.5
1963	122,416	71,833	67,762	4,687	63,076	4,070	50,583	58.7	55.4	5.7
1964	124,485	73,091	69,305	4,523	64,782	3,786	51,394	58.7	55.7	5.2
1965	126,513	74,455	71,088	4,361	66,726	3,366	52,058	58.9	56.2	4.5
1966	128,058	75,770	72,895	3,979	68,915	2,875	52,288	59.2	56.9	3.8
1967	129,874	77,347	74,372	3,844	70,527	2,975	52,527	59.6	57.3	3.8
1968	132,028	78,737	75,920	3,817	72,103	2,817	53,29.	59.6	57.5	3.6
1969	134,335	80,734	77,902	3,606	74,296	2,832	53,602	60.1	58.0	3.5
1970	137,085	82,771	78,678	3,463	75,215	4,093	54,315	60.4	57.4	4.9
1971	140,216	84,382	79,367	3,394	75,972	5,016	55,834	60.2	56.6	5.9
1972[5]	144,126	87,034	82,153	3,484	78,669	4,882	57,091	60.4	57.0	5.6
1973[5]	147,096	89,429	85,064	3,470	81,594	4,365	57,667	60.8	57.8	4.9
1974	150,120	91,949	86,794	3,515	83,279	5,156	58,171	61.3	57.8	5.6
1975	153,153	93,775	85,846	3,408	82,438	7,929	59,377	61.2	56.1	8.5
1976	156,150	96,158	88,752	3,331	85,421	7,406	59,991	61.6	56.8	7.7
1977	159,033	99,009	92,017	3,283	88,734	6,991	60,025	62.3	57.9	7.1
1978[5]	161,910	102,251	96,048	3,387	92,661	6,202	59,659	63.2	59.3	6.1
1979	164,863	104,962	98,824	3,347	95,477	6,137	59,900	63.7	59.9	5.8
1980	167,745	106,940	99,303	3,364	95,938	7,637	60,806	63.8	59.2	7.1
1981	170,130	108,670	100,397	3,368	97,030	8,273	61,460	63.9	59.0	7.6
1982	172,271	110,204	99,526	3,401	96,125	10,678	62,067	64.0	57.8	9.7
1983	174,215	111,550	100,834	3,383	97,450	10,717	62,665	64.0	57.9	9.6
1984	176,383	113,544	105,005	3,321	101,685	8,539	62,839	64.4	59.5	7.5
1985	178,206	115,461	107,150	3,179	103,971	8,312	62,744	64.8	60.1	7.2
1986[5]	180,587	117,834	109,597	3,163	106,434	8,237	62,752	65.3	60.7	7.0
1987	182,753	119,865	112,440	3,208	109,732	7,425	62,888	65.6	61.5	6.2
1988	184,613	121,669	114,968	3,169	111,800	6,701	62,944	65.9	62.3	5.5
1989	186,393	123,869	117,342	3,199	114,142	6,528	62,523	66.5	63.0	5.3
1990[5]	189,164	125,840	118,793	3,223	115,570	7,047	63,324	66.5	62.8	5.6
1991	190,925	126,346	117,718	3,269	114,449	8,628	64,578	66.2	61.7	6.8
1992	192,805	128,105	118,492	3,247	115,245	9,613	64,700	66.4	61.5	7.5
1993	194,838	129,200	120,259	3,115	117,144	8,940	65,638	66.3	61.7	6.9
1994[5]	196,814	131,056	123,060	3,409	119,651	7,956	65,758	66.6	62.5	6.1
1995	198,584	132,304	124,900	3,440	121,460	7,404	66,280	66.6	62.9	5.6
1996	200,591	133,943	126,708	3,443	123,264	7,236	66,647	66.8	63.2	5.4
1997[5]	203,133	136,297	129,558	3,399	126,159	6,739	66,837	67.1	63.8	4.9
1998[5]	205,220	137,673	131,463	3,378	128,085	6,210	67,547	67.1	64.1	4.5

[1] Not seasonally adjusted.
[2] Civilian labor force as percent of civilian noninstitutional population.
[3] Civilian employment as percent of civilian noninstitutional population.
[4] Unemployed as percent of civilian labor force.

See next page for continuation of table.

TABLE B–35.—*Civilian population and labor force, 1929–98*—Continued

[Monthly data seasonally adjusted, except as noted]

Year or month	Civilian noninstitutional population[1]	Civilian labor force					Not in labor force	Civilian labor force participation rate[2]	Civilian employment/population ratio[3]	Unemployment rate, civilian workers[4]
		Total	Employment			Unemployment				
			Total	Agricultural	Nonagricultural					
	Thousands of persons 16 years of age and over							Percent		
1995: Jan	197,753	132,034	124,696	3,520	121,176	7,338	65,719	66.8	63.1	5.6
Feb	197,886	132,111	124,922	3,609	121,313	7,189	65,775	66.8	63.1	5.4
Mar	198,007	132,099	124,957	3,634	121,323	7,142	65,908	66.7	63.1	5.4
Apr	198,148	132,591	124,955	3,575	121,380	7,636	65,557	66.9	63.1	5.8
May	198,286	131,881	124,445	3,350	121,095	7,436	66,405	66.5	62.8	5.6
June	198,453	131,956	124,525	3,466	121,059	7,431	66,497	66.5	62.7	5.6
July	198,615	132,336	124,800	3,378	121,422	7,536	66,279	66.6	62.8	5.7
Aug	198,801	132,329	124,833	3,374	121,459	7,496	66,472	66.6	62.8	5.7
Sept	199,005	132,608	125,111	3,282	121,829	7,497	66,397	66.6	62.9	5.7
Oct	199,192	132,698	125,358	3,430	121,928	7,340	66,494	66.6	62.9	5.5
Nov	199,355	132,611	125,184	3,339	121,845	7,427	66,744	66.5	62.8	5.6
Dec	199,528	132,510	125,081	3,350	121,731	7,429	66,998	66.4	62.7	5.6
1996: Jan	199,634	132,665	125,201	3,489	121,712	7,464	66,969	66.5	62.7	5.6
Feb	199,773	133,022	125,687	3,541	122,146	7,335	66,751	66.6	62.9	5.5
Mar	199,921	133,188	125,890	3,491	122,399	7,298	66,733	66.6	63.0	5.5
Apr	200,101	133,407	126,017	3,414	122,603	7,390	66,694	66.7	63.0	5.5
May	200,278	133,718	126,264	3,479	122,785	7,454	66,560	66.8	63.0	5.6
June	200,459	133,711	126,608	3,427	123,181	7,103	66,748	66.7	63.2	5.3
July	200,641	134,247	126,908	3,437	123,471	7,339	66,394	66.9	63.3	5.5
Aug	200,847	134,021	127,130	3,400	123,730	6,891	66,826	66.7	63.3	5.1
Sept	201,061	134,464	127,470	3,437	124,033	6,994	66,597	66.9	63.4	5.2
Oct	201,273	134,847	127,813	3,448	124,365	7,034	66,426	67.0	63.5	5.2
Nov	201,463	134,944	127,717	3,355	124,362	7,227	66,519	67.0	63.4	5.4
Dec	201,636	135,063	127,819	3,426	124,393	7,244	66,573	67.0	63.4	5.4
1997: Jan[5]	202,285	135,598	128,472	3,462	125,010	7,126	66,687	67.0	63.5	5.3
Feb	202,389	135,563	128,409	3,346	125,063	7,154	66,826	67.0	63.4	5.3
Mar	202,513	135,950	128,954	3,418	125,536	6,996	66,563	67.1	63.7	5.1
Apr	202,674	136,052	129,210	3,496	125,714	6,842	66,622	67.1	63.8	5.0
May	202,832	136,103	129,425	3,437	125,988	6,678	66,729	67.1	63.8	4.9
June	203,000	136,254	129,430	3,409	126,021	6,824	66,746	67.1	63.8	5.0
July	203,166	136,378	129,745	3,428	126,317	6,633	66,788	67.1	63.9	4.9
Aug	203,364	136,540	129,910	3,354	126,556	6,630	66,824	67.1	63.9	4.9
Sept	203,570	136,565	129,911	3,382	126,529	6,654	67,005	67.1	63.8	4.9
Oct	203,767	136,500	130,055	3,289	126,766	6,445	67,267	67.0	63.8	4.7
Nov	203,941	136,835	130,546	3,377	127,169	6,289	67,106	67.1	64.0	4.6
Dec	204,098	137,086	130,638	3,383	127,255	6,448	67,012	67.2	64.0	4.7
1998: Jan[5]	204,238	137,288	130,943	3,337	127,606	6,345	66,950	67.2	64.1	4.6
Feb	204,400	137,384	131,021	3,345	127,676	6,363	67,016	67.2	64.1	4.6
Mar	204,547	137,340	130,968	3,173	127,735	6,432	67,207	67.1	64.0	4.7
Apr	204,731	137,232	131,280	3,381	127,899	5,952	67,499	67.0	64.1	4.3
May	204,899	137,369	131,330	3,351	127,979	6,039	67,530	67.0	64.1	4.4
June	205,085	137,498	131,253	3,363	127,890	6,245	67,587	67.0	64.0	4.5
July	205,270	137,407	131,176	3,423	127,753	6,231	67,863	66.9	63.9	4.5
Aug	205,479	137,481	131,264	3,492	127,772	6,217	67,998	66.9	63.9	4.5
Sept	205,699	138,081	131,818	3,470	128,348	6,263	67,618	67.1	64.1	4.5
Oct	205,919	138,116	131,858	3,558	128,300	6,258	67,803	67.1	64.0	4.5
Nov	206,104	138,193	132,113	3,348	128,765	6,080	67,911	67.1	64.1	4.4
Dec	206,270	138,547	132,526	3,222	129,304	6,021	67,723	67.2	64.2	4.3

[1] Not strictly comparable with earlier data due to population adjustments as follows: Beginning 1953, introduction of 1950 census data added about 600,000 to population and 350,000 to labor force, total employment, and agricultural employment. Beginning 1960, inclusion of Alaska and Hawaii added about 500,000 to population, 300,000 to labor force, and 240,000 to nonagricultural employment. Beginning 1962, introduction of 1960 census data reduced population by about 50,000 and labor force and employment by 200,000. Beginning 1972, introduction of 1970 census data added about 800,000 to civilian noninstitutional population and 333,000 to labor force and employment. A subsequent adjustment based on 1970 census in March 1973 added 60,000 to labor force and to employment. Beginning 1978, changes in sampling and estimation procedures introduced into the household survey added about 250,000 to labor force and to employment. Unemployment levels and rates were not significantly affected. Beginning 1986, the introduction of revised population controls added about 400,000 to the civilian population and labor force and 350,000 to civilian employment. Unemployment levels and rates were not significantly affected.

Beginning 1990, the introduction of 1990 census-based population controls, adjusted for the estimated undercount, added about 1.1 million to the civilian population and labor force, 880,000 to civilian employment, and 175,000 to unemployment. The overall unemployment rate rose by about 0.1 percentage point.

Beginning 1994, data are not strictly comparable with earlier data because of the introduction of a major redesign of the Current Population Survey and collection methodology.

Beginning 1997, data are not strictly comparable with earlier data due to the introduction of revised population controls which added about 470,000 to the civilian population, 320,000 to the labor force, and 290,000 to employment. Unemployment rates and other percentages of labor market participation were not affected.

Beginning 1998, data are not strictly comparable with earlier data due to the introduction of a new composite estimation procedure for the Current Population Survey and revised population controls. If reestimated using the revised population controls, 1997 civilian population and employment would change slightly and most unemployment rates and other ratios and proportions would be unaffected.

Note.—Labor force data in Tables B–35 through B–44 are based on household interviews and relate to the calendar week including the 12th of the month. For definitions of terms, area samples used, historical comparability of the data, comparability with other series, etc., see "Employment and Earnings."

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–36.—*Civilian employment and unemployment by sex and age, 1950–98*

[Thousands of persons 16 years of age and over; monthly data seasonally adjusted]

Year or month	Civilian employment							Unemployment						
	Total	Males			Females			Total	Males			Females		
		Total	16–19 years	20 years and over	Total	16–19 years	20 years and over		Total	16–19 years	20 years and over	Total	16–19 years	20 years and over
1950	58,918	41,578	2,186	39,394	17,340	1,517	15,824	3,288	2,239	318	1,922	1,049	195	854
1951	59,961	41,780	2,156	39,626	18,181	1,611	16,570	2,055	1,221	191	1,029	834	145	689
1952	60,250	41,682	2,107	39,578	18,568	1,612	16,958	1,883	1,185	205	980	698	140	559
1953	61,179	42,430	2,136	40,296	18,749	1,584	17,164	1,834	1,202	184	1,019	632	123	510
1954	60,109	41,619	1,985	39,634	18,490	1,490	17,000	3,532	2,344	310	2,035	1,188	191	997
1955	62,170	42,621	2,095	40,526	19,551	1,547	18,002	2,852	1,854	274	1,580	998	176	823
1956	63,799	43,379	2,164	41,216	20,419	1,654	18,767	2,750	1,711	269	1,442	1,039	209	832
1957	64,071	43,357	2,115	41,239	20,714	1,663	19,052	2,859	1,841	300	1,541	1,018	197	821
1958	63,036	42,423	2,012	40,411	20,613	1,570	19,043	4,602	3,098	416	2,681	1,504	262	1,242
1959	64,630	43,466	2,198	41,267	21,164	1,640	19,524	3,740	2,420	398	2,022	1,320	256	1,063
1960	65,778	43,904	2,361	41,543	21,874	1,768	20,105	3,852	2,486	426	2,060	1,366	286	1,080
1961	65,746	43,656	2,315	41,342	22,090	1,793	20,296	4,714	2,997	479	2,518	1,717	349	1,368
1962	66,702	44,177	2,362	41,815	22,525	1,833	20,693	3,911	2,423	408	2,016	1,488	313	1,175
1963	67,762	44,657	2,406	42,251	23,105	1,849	21,257	4,070	2,472	501	1,971	1,598	383	1,216
1964	69,305	45,474	2,587	42,886	23,831	1,929	21,903	3,786	2,205	487	1,718	1,581	385	1,195
1965	71,088	46,340	2,918	43,422	24,748	2,118	22,630	3,366	1,914	479	1,435	1,452	395	1,056
1966	72,895	46,919	3,253	43,668	25,976	2,468	23,510	2,875	1,551	432	1,120	1,324	405	921
1967	74,372	47,479	3,186	44,294	26,893	2,496	24,397	2,975	1,508	448	1,060	1,468	394	1,078
1968	75,920	48,114	3,255	44,859	27,807	2,526	25,281	2,817	1,419	426	993	1,397	412	985
1969	77,902	48,818	3,430	45,388	29,084	2,687	26,397	2,832	1,403	440	963	1,429	413	1,015
1970	78,678	48,990	3,409	45,581	29,688	2,735	26,952	4,093	2,238	599	1,638	1,855	506	1,349
1971	79,367	49,390	3,478	45,912	29,976	2,730	27,246	5,016	2,789	693	2,097	2,227	568	1,658
1972	82,153	50,896	3,765	47,130	31,257	2,980	28,276	4,882	2,659	711	1,948	2,222	598	1,625
1973	85,064	52,349	4,039	48,310	32,715	3,231	29,484	4,365	2,275	653	1,624	2,089	583	1,507
1974	86,794	53,024	4,103	48,922	33,769	3,345	30,424	5,156	2,714	757	1,957	2,441	665	1,777
1975	85,846	51,857	3,839	48,018	33,989	3,263	30,726	7,929	4,442	966	3,476	3,486	802	2,684
1976	88,752	53,138	3,947	49,190	35,615	3,389	32,226	7,406	4,036	939	3,098	3,369	780	2,588
1977	92,017	54,728	4,174	50,555	37,289	3,514	33,775	6,991	3,667	874	2,794	3,324	789	2,535
1978	96,048	56,479	4,336	52,143	39,569	3,734	35,836	6,202	3,142	813	2,328	3,061	769	2,292
1979	98,824	57,607	4,300	53,308	41,217	3,783	37,434	6,137	3,120	811	2,308	3,018	743	2,276
1980	99,303	57,186	4,085	53,101	42,117	3,625	38,492	7,637	4,267	913	3,353	3,370	755	2,615
1981	100,397	57,397	3,815	53,582	43,000	3,411	39,590	8,273	4,577	962	3,615	3,696	800	2,895
1982	99,526	56,271	3,379	52,891	43,256	3,170	40,086	10,678	6,179	1,090	5,089	4,499	886	3,613
1983	100,834	56,787	3,300	53,487	44,047	3,043	41,004	10,717	6,260	1,003	5,257	4,457	825	3,632
1984	105,005	59,091	3,322	55,769	45,915	3,122	42,793	8,539	4,744	812	3,932	3,794	687	3,107
1985	107,150	59,891	3,328	56,562	47,259	3,105	44,154	8,312	4,521	806	3,715	3,791	661	3,129
1986	109,597	60,892	3,323	57,569	48,706	3,149	45,556	8,237	4,530	779	3,751	3,707	675	3,032
1987	112,440	62,107	3,381	58,726	50,334	3,260	47,074	7,425	4,101	732	3,369	3,324	616	2,709
1988	114,968	63,273	3,492	59,781	51,696	3,313	48,383	6,701	3,655	667	2,987	3,046	558	2,487
1989	117,342	64,315	3,477	60,837	53,027	3,282	49,745	6,528	3,525	658	2,867	3,003	536	2,467
1990	118,793	65,104	3,427	61,678	53,689	3,154	50,535	7,047	3,906	667	3,239	3,140	544	2,596
1991	117,718	64,223	3,044	61,178	53,496	2,862	50,634	8,628	4,946	751	4,195	3,683	608	3,074
1992	118,492	64,440	2,944	61,496	54,052	2,724	51,328	9,613	5,523	806	4,717	4,090	621	3,469
1993	120,259	65,349	2,994	62,355	54,910	2,811	52,099	8,940	5,055	768	4,287	3,885	597	3,288
1994	123,060	66,450	3,156	63,294	56,610	3,005	53,606	7,996	4,367	740	3,627	3,629	580	3,049
1995	124,900	67,377	3,292	64,085	57,523	3,127	54,396	7,404	3,983	744	3,239	3,421	602	2,819
1996	126,708	68,207	3,310	64,897	58,501	3,190	55,311	7,236	3,880	733	3,146	3,356	573	2,783
1997	129,558	69,685	3,401	66,284	59,873	3,260	56,613	6,739	3,577	694	2,882	3,162	577	2,585
1998	131,463	70,693	3,558	67,135	60,771	3,493	57,278	6,210	3,266	686	2,580	2,944	519	2,424
1997: Jan	128,472	69,121	3,343	65,778	59,351	3,239	56,112	7,126	3,847	741	3,106	3,279	603	2,676
Feb	128,409	69,203	3,399	65,804	59,206	3,213	55,993	7,154	3,762	729	3,033	3,392	662	2,730
Mar	128,954	69,388	3,371	66,017	59,566	3,272	56,294	6,996	3,717	726	2,991	3,279	578	2,701
Apr	129,210	69,485	3,363	66,122	59,725	3,349	56,376	6,842	3,667	717	2,950	3,175	549	2,626
May	129,425	69,721	3,479	66,242	59,704	3,226	56,478	6,678	3,404	642	2,762	3,274	608	2,666
June	129,430	69,592	3,307	66,285	59,838	3,233	56,605	6,824	3,666	764	2,902	3,158	543	2,615
July	129,745	69,747	3,347	66,400	59,998	3,269	56,729	6,633	3,466	706	2,760	3,167	620	2,547
Aug	129,910	69,857	3,373	66,484	60,053	3,238	56,815	6,630	3,511	715	2,796	3,119	549	2,570
Sept	129,911	69,839	3,361	66,478	60,072	3,211	56,861	6,654	3,480	692	2,788	3,174	584	2,590
Oct	130,055	69,886	3,459	66,427	60,169	3,240	56,929	6,445	3,478	669	2,809	2,967	532	2,435
Nov	130,546	70,273	3,538	66,735	60,273	3,304	56,969	6,289	3,361	656	2,705	2,928	548	2,380
Dec	130,638	70,133	3,497	66,636	60,505	3,340	57,165	6,448	3,429	576	2,853	3,019	546	2,473
1998: Jan	130,543	70,387	3,495	66,892	60,556	3,505	57,051	6,345	3,332	677	2,655	3,013	481	2,532
Feb	131,021	70,411	3,484	66,927	60,610	3,513	57,097	6,363	3,324	692	2,632	3,039	511	2,528
Mar	130,908	70,295	3,526	66,769	60,613	3,477	57,136	6,432	3,362	685	2,677	3,070	540	2,530
Apr	131,280	70,695	3,522	67,173	60,585	3,468	57,117	5,952	3,028	585	2,443	2,924	502	2,422
May	131,330	70,603	3,519	67,084	60,727	3,492	57,235	6,039	3,189	665	2,524	2,850	502	2,348
June	131,253	70,592	3,598	66,994	60,661	3,471	57,190	6,245	3,274	678	2,596	2,971	548	2,423
July	131,176	70,629	3,573	67,056	60,547	3,469	57,078	6,231	3,360	678	2,682	2,871	484	2,387
Aug	131,264	70,503	3,563	66,940	60,761	3,466	57,295	6,217	3,251	673	2,578	2,966	553	2,413
Sept	131,818	70,841	3,579	67,262	60,977	3,551	57,426	6,263	3,361	754	2,607	2,902	524	2,378
Oct	131,858	70,925	3,563	67,362	60,933	3,496	57,437	6,258	3,264	713	2,551	2,994	605	2,389
Nov	132,113	71,182	3,609	67,573	60,931	3,428	57,503	6,080	3,163	713	2,450	2,917	524	2,393
Dec	132,526	71,204	3,651	67,553	61,322	3,577	57,745	6,021	3,233	717	2,516	2,788	455	2,333

Note.—See footnote 5 and Note, Table B–35.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–37.—*Civilian employment by demographic characteristic, 1955–98*

[Thousands of persons 16 years of age and over; monthly data seasonally adjusted]

Year or month	All civilian workers	White				Black and other				Black			
		Total	Males	Females	Both sexes 16–19	Total	Males	Females	Both sexes 16–19	Total	Males	Females	Both sexes 16–19
1955	62,170	55,833	38,719	17,114	3,225	6,341	3,904	2,437	418				
1956	63,799	57,269	39,368	17,901	3,389	6,534	4,013	2,521	430				
1957	64,071	57,465	39,349	18,116	3,374	6,604	4,006	2,598	407				
1958	63,036	56,613	38,591	18,022	3,216	6,423	3,833	2,590	365				
1959	64,630	58,006	39,494	18,512	3,475	6,623	3,971	2,652	362				
1960	65,778	58,850	39,755	19,095	3,700	6,928	4,149	2,779	430				
1961	65,746	58,913	39,588	19,325	3,693	6,833	4,068	2,765	414				
1962	66,702	59,698	40,016	19,682	3,774	7,003	4,160	2,843	420				
1963	67,762	60,622	40,428	20,194	3,851	7,140	4,229	2,911	404				
1964	69,305	61,922	41,115	20,807	4,076	7,383	4,359	3,024	440				
1965	71,088	63,446	41,844	21,602	4,562	7,643	4,496	3,147	474				
1966	72,895	65,021	42,331	22,690	5,176	7,877	4,588	3,289	545				
1967	74,372	66,361	42,833	23,528	5,114	8,011	4,646	3,365	568				
1968	75,920	67,750	43,411	24,339	5,195	8,169	4,702	3,467	584				
1969	77,902	69,518	44,048	25,470	5,508	8,384	4,770	3,614	609				
1970	78,678	70,217	44,178	26,039	5,571	8,464	4,813	3,650	574				
1971	79,367	70,878	44,595	26,283	5,670	8,488	4,796	3,692	538				
1972	82,153	73,370	45,944	27,426	6,173	8,783	4,952	3,832	573	7,802	4,368	3,433	509
1973	85,064	75,708	47,085	28,623	6,623	9,356	5,265	4,092	647	8,128	4,527	3,601	570
1974	86,794	77,184	47,674	29,511	6,796	9,610	5,352	4,258	652	8,203	4,527	3,677	554
1975	85,846	76,411	46,697	29,714	6,487	9,435	5,161	4,275	615	7,894	4,275	3,618	507
1976	88,752	78,853	47,775	31,078	6,724	9,899	5,363	4,536	611	8,227	4,404	3,823	508
1977	92,017	81,700	49,150	32,550	7,068	10,317	5,579	4,739	619	8,540	4,565	3,975	508
1978	96,048	84,936	50,544	34,392	7,367	11,112	5,936	5,177	703	9,102	4,796	4,307	571
1979	98,824	87,259	51,452	35,807	7,356	11,565	6,156	5,409	727	9,359	4,923	4,436	579
1980	99,303	87,715	51,127	36,587	7,021	11,588	6,059	5,529	689	9,313	4,798	4,515	547
1981	100,397	88,709	51,315	37,394	6,588	11,688	6,083	5,606	637	9,355	4,794	4,561	505
1982	99,526	87,903	50,287	37,615	5,984	11,624	5,983	5,641	565	9,189	4,637	4,552	428
1983	100,834	88,893	50,621	38,272	5,799	11,941	6,166	5,775	543	9,375	4,753	4,622	416
1984	105,005	92,120	52,462	39,659	5,836	12,885	6,629	6,256	607	10,119	5,124	4,995	474
1985	107,150	93,736	53,046	40,690	5,768	13,414	6,845	6,569	666	10,501	5,270	5,231	532
1986	109,597	95,660	53,785	41,876	5,792	13,937	7,107	6,830	681	10,814	5,428	5,386	536
1987	112,440	97,789	54,647	43,142	5,898	14,652	7,459	7,192	742	11,309	5,661	5,648	587
1988	114,968	99,812	55,550	44,262	6,030	15,156	7,722	7,434	774	11,658	5,824	5,834	601
1989	117,342	101,584	56,352	45,232	5,946	15,757	7,963	7,795	813	11,953	5,928	6,025	625
1990	118,793	102,261	56,703	45,558	5,779	16,533	8,401	8,131	801	12,175	5,995	6,180	588
1991	117,718	101,182	55,797	45,385	5,216	16,536	8,426	8,110	690	12,074	5,961	6,113	494
1992	118,492	101,669	55,959	45,710	4,985	16,823	8,482	8,342	684	12,151	5,930	6,221	492
1993	120,259	103,045	56,656	46,390	5,113	17,214	8,693	8,521	691	12,382	6,047	6,334	494
1994	123,060	105,190	57,452	47,738	5,398	17,870	8,998	8,872	763	12,835	6,241	6,595	552
1995	124,300	106,490	58,146	48,344	5,593	18,409	9,231	9,179	826	13,279	6,422	6,857	586
1996	126,708	107,808	58,888	48,920	5,667	18,900	9,319	9,580	832	13,542	6,456	7,086	613
1997	129,558	109,856	59,998	49,859	5,807	19,701	9,687	10,014	853	13,969	6,607	7,362	631
1998	131,463	110,931	60,604	50,327	6,089	20,532	10,089	10,443	962	14,556	6,871	7,685	736
1997: Jan	128,472	109,109	59,602	49,507	5,719	19,298	9,503	9,795	849	13,717	6,486	7,231	630
Feb	128,409	109,095	59,606	49,489	5,723	19,299	9,576	9,723	872	13,714	6,511	7,203	657
Mar	128,954	109,488	59,854	49,634	5,748	19,467	9,521	9,946	906	13,785	6,477	7,308	667
Apr	129,210	109,712	59,926	49,786	5,868	19,499	9,562	9,937	852	13,848	6,517	7,331	618
May	129,425	109,865	60,077	49,788	5,845	19,580	9,628	9,952	853	13,841	6,553	7,288	599
June	129,430	109,877	59,940	49,937	5,741	19,535	9,640	9,895	795	13,806	6,552	7,254	589
July	129,745	109,933	60,004	49,929	5,770	19,782	9,713	10,069	821	14,030	6,636	7,394	612
Aug	129,910	109,946	60,012	49,934	5,733	20,022	9,892	10,130	850	14,271	6,791	7,480	654
Sept	129,911	109,905	60,022	49,883	5,749	19,997	9,803	10,194	826	14,245	6,720	7,525	624
Oct	130,055	110,206	60,143	50,063	5,827	19,889	9,789	10,100	875	14,077	6,683	7,394	659
Nov	130,546	110,530	60,443	50,087	6,000	20,015	9,833	10,182	879	14,143	6,713	7,430	644
Dec	130,638	110,612	60,367	50,245	5,979	20,036	9,781	10,255	873	14,147	6,637	7,510	624
1998: Jan	130,943	110,659	60,398	50,261	6,087	20,254	9,999	10,255	918	14,288	6,763	7,525	677
Feb	131,021	110,731	60,445	50,286	6,070	20,265	9,952	10,313	901	14,340	6,747	7,593	654
Mar	130,908	110,556	60,293	50,263	6,084	20,389	10,010	10,379	943	14,463	6,836	7,627	704
Apr	131,280	110,858	60,617	50,241	6,016	20,443	10,089	10,354	989	14,477	6,884	7,593	737
May	131,330	110,959	60,533	50,426	6,084	20,368	10,035	10,333	918	14,351	6,827	7,524	682
June	131,253	110,638	60,442	50,196	6,046	20,595	10,142	10,453	1,029	14,662	6,963	7,699	833
July	131,176	110,676	60,548	50,128	6,100	20,465	10,055	10,410	927	14,511	6,858	7,653	726
Aug	131,264	110,848	60,547	50,301	6,077	20,499	10,030	10,469	932	14,517	6,819	7,698	728
Sept	131,818	111,221	60,722	50,499	6,150	20,601	10,108	10,493	986	14,584	6,862	7,722	765
Oct	131,858	111,162	60,788	50,374	6,115	20,718	10,164	10,554	931	14,776	6,965	7,811	732
Nov	132,113	111,304	60,963	50,341	6,083	20,813	10,219	10,594	990	14,804	6,948	7,856	771
Dec	132,526	111,560	60,957	50,603	6,162	20,981	10,270	10,711	1,086	14,884	6,969	7,915	822

Note.—See footnote 5 and Note, Table B–35.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–38.—*Unemployment by demographic characteristic, 1955–98*

[Thousands of persons 16 years of age and over; monthly data seasonally adjusted]

Year or month	All civilian workers	White				Black and other				Black			
		Total	Males	Females	Both sexes 16–19	Total	Males	Females	Both sexes 16–19	Total	Males	Females	Both sexes 16–19
1955	2,852	2,252	1,478	774	373	601	376	225	77	.....	.....	.....	.....
1956	2,750	2,159	1,366	793	382	591	345	246	95	.....	.....	.....	.....
1957	2,859	2,289	1,477	812	401	570	364	206	96	.....	.....	.....	.....
1958	4,602	3,680	2,489	1,191	541	923	610	313	138	.....	.....	.....	.....
1959	3,740	2,946	1,903	1,043	525	793	517	276	128	.....	.....	.....	.....
1960	3,852	3,065	1,988	1,077	575	788	498	290	138	.....	.....	.....	.....
1961	4,714	3,743	2,398	1,345	669	971	599	372	159	.....	.....	.....	.....
1962	3,911	3,052	1,915	1,137	580	861	509	352	142	.....	.....	.....	.....
1963	4,070	3,208	1,976	1,232	708	863	496	367	176	.....	.....	.....	.....
1964	3,786	2,999	1,775	1,220	708	787	426	361	165	.....	.....	.....	.....
1965	3,366	2,691	1,556	1,135	705	678	360	318	171	.....	.....	.....	.....
1966	2,875	2,255	1,241	1,014	651	622	310	312	186	.....	.....	.....	.....
1967	2,975	2,338	1,208	1,130	635	638	300	338	203	.....	.....	.....	.....
1968	2,817	2,226	1,142	1,084	644	590	277	313	194	.....	.....	.....	.....
1969	2,832	2,260	1,137	1,123	660	571	267	304	193	.....	.....	.....	.....
1970	4,093	3,339	1,857	1,482	871	754	380	374	235	.....	.....	.....	.....
1971	5,016	4,085	2,309	1,777	1,011	930	481	450	249	.....	.....	.....	.....
1972	4,882	3,906	2,173	1,733	1,021	977	486	491	288	906	448	458	279
1973	4,365	3,442	1,836	1,606	955	924	440	484	280	846	395	451	262
1974	5,156	4,097	2,169	1,927	1,104	1,058	544	514	318	965	494	470	297
1975	7,929	6,421	3,627	2,794	1,413	1,507	815	692	355	1,369	741	629	330
1976	7,406	5,914	3,258	2,656	1,364	1,492	779	713	355	1,334	698	637	330
1977	6,991	5,441	2,883	2,558	1,284	1,550	784	766	379	1,393	698	695	354
1978	6,202	4,698	2,411	2,287	1,189	1,505	731	774	394	1,330	641	690	360
1979	6,137	4,664	2,405	2,260	1,193	1,473	714	759	362	1,319	636	683	333
1980	7,637	5,884	3,345	2,540	1,291	1,752	922	830	377	1,553	815	738	343
1981	8,273	6,343	3,580	2,762	1,374	1,930	997	933	388	1,731	891	840	357
1982	10,678	8,241	4,846	3,395	1,534	2,437	1,334	1,104	443	2,142	1,167	975	396
1983	10,717	8,128	4,859	3,270	1,387	2,588	1,401	1,187	441	2,272	1,213	1,059	392
1984	8,539	6,372	3,600	2,772	1,116	2,167	1,144	1,022	384	1,914	1,003	911	353
1985	8,312	6,191	3,426	2,765	1,074	2,121	1,095	1,026	394	1,864	951	913	357
1986	8,237	6,140	3,433	2,708	1,070	2,097	1,097	999	383	1,840	946	893	347
1987	7,425	5,501	3,132	2,369	995	1,924	969	955	353	1,684	826	858	312
1988	6,701	4,944	2,766	2,177	910	1,757	888	869	316	1,547	771	776	288
1989	6,528	4,770	2,636	2,135	863	1,757	889	868	331	1,544	773	772	300
1990	7,047	5,186	2,935	2,251	903	1,860	971	889	308	1,565	806	758	268
1991	8,628	6,560	3,859	2,701	1,029	2,068	1,087	981	330	1,723	850	833	280
1992	9,613	7,169	4,209	2,959	1,037	2,444	1,314	1,130	390	2,011	1,067	944	324
1993	8,940	6,655	3,828	2,827	992	2,285	1,227	1,058	373	1,844	971	872	313
1994	7,996	5,892	3,275	2,617	960	2,104	1,092	1,011	360	1,666	848	818	300
1995	7,404	5,459	2,999	2,460	952	1,945	984	961	394	1,538	762	777	325
1996	7,236	5,300	2,896	2,404	939	1,936	984	952	367	1,592	808	784	310
1997	6,739	4,836	2,641	2,195	912	1,903	935	967	359	1,560	747	813	302
1998	6,210	4,484	2,431	2,053	876	1,726	835	891	329	1,426	671	756	281
1997: Jan	7,126	5,170	2,870	2,300	955	1,986	977	1,009	389	1,655	803	852	328
Feb	7,154	5,113	2,783	2,330	986	2,011	961	1,050	393	1,662	772	890	324
Mar	6,996	5,018	2,729	2,289	941	1,975	989	986	369	1,616	799	817	312
Apr	6,842	4,899	2,700	2,199	916	1,936	974	962	359	1,536	758	778	302
May	6,678	4,708	2,451	2,257	873	1,990	949	1,041	387	1,586	745	841	305
June	6,824	4,855	2,653	2,202	943	1,970	1,003	967	367	1,637	819	818	307
July	6,633	4,802	2,599	2,203	995	1,786	850	936	297	1,479	707	772	268
Aug	6,630	4,813	2,637	2,176	928	1,834	895	939	335	1,493	701	792	281
Sept	6,654	4,864	2,577	2,287	945	1,818	900	918	339	1,493	706	787	289
Oct	6,445	4,683	2,606	2,077	888	1,765	887	878	308	1,481	704	777	266
Nov	6,289	4,459	2,492	1,967	832	1,833	876	957	377	1,489	677	812	305
Dec	6,448	4,506	2,464	2,042	748	1,932	957	975	383	1,586	757	829	339
1998: Jan	6,345	4,567	2,462	2,105	816	1,811	879	932	344	1,482	705	777	293
Feb	6,363	4,540	2,454	2,086	856	1,800	861	939	337	1,494	699	795	292
Mar	6,432	4,628	2,512	2,116	893	1,797	852	945	338	1,468	667	801	288
Apr	5,952	4,263	2,243	2,020	809	1,686	792	894	284	1,424	647	777	257
May	6,039	4,353	2,389	1,964	842	1,695	792	903	333	1,409	620	789	281
June	6,245	4,570	2,470	2,100	934	1,682	801	881	298	1,363	618	745	242
July	6,231	4,395	2,431	1,964	795	1,797	911	886	334	1,534	779	755	292
Aug	6,217	4,537	2,446	2,091	899	1,687	820	867	325	1,420	674	746	285
Sept	6,263	4,530	2,509	2,021	906	1,759	854	905	379	1,443	676	767	315
Oct	6,258	4,552	2,447	2,105	958	1,702	828	874	352	1,387	657	730	295
Nov	6,080	4,383	2,348	2,035	905	1,695	820	875	333	1,397	672	725	293
Dec	6,021	4,436	2,432	2,004	892	1,576	790	786	291	1,273	618	655	237

Note.—See footnote 5 and Note, Table B–35.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–39.—*Civilian labor force participation rate and employment/population ratio, 1950–98*

[Percent;[1] monthly data seasonally adjusted]

Year or month	Labor force participation rate							Employment/population ratio						
	All civilian workers	Males	Females	Both sexes 16–19 years	White	Black and other	Black	All civilian workers	Males	Females	Both sexes 16–19 years	White	Black and other	Black
1950	59.2	86.4	33.9	51.8	.....	.....	.....	56.1	82.0	32.0	45.5	.....	.....	.....
1951	59.2	86.3	34.6	52.2	.....	.....	.....	57.3	84.0	33.1	47.9	.....	.....	.....
1952	59.0	86.3	34.7	51.3	.....	.....	.....	57.3	83.9	33.4	46.9	.....	.....	.....
1953	58.9	86.0	34.4	50.2	.....	.....	.....	57.1	83.6	33.3	46.4	.....	.....	.....
1954	58.8	85.5	34.6	48.3	58.2	64.0	.....	55.5	81.0	32.5	42.3	55.2	58.0	.....
1955	59.3	85.4	35.7	48.9	58.7	64.2	.....	56.7	81.8	34.0	43.5	56.5	58.7	.....
1956	60.0	85.5	36.9	50.9	59.4	64.9	.....	57.5	82.3	35.1	45.3	57.3	59.5	.....
1957	59.6	84.8	36.9	49.6	59.1	64.4	.....	57.1	81.3	35.1	43.9	56.8	59.3	.....
1958	59.5	84.2	37.1	47.4	58.9	64.8	.....	55.4	78.5	34.5	39.9	55.3	56.7	.....
1959	59.3	83.7	37.1	46.7	58.7	64.3	.....	56.0	79.3	35.0	39.9	55.9	57.5	.....
1960	59.4	83.3	37.7	47.5	58.8	64.5	.....	56.1	78.9	35.5	40.5	55.9	57.9	.....
1961	59.3	82.9	38.1	46.9	58.8	64.1	.....	55.4	77.6	35.4	39.1	55.3	56.2	.....
1962	58.8	82.0	37.9	46.1	58.3	63.2	.....	55.5	77.7	35.6	39.4	55.4	56.3	.....
1963	58.7	81.4	38.3	45.2	58.2	63.0	.....	55.4	77.1	35.8	37.4	55.3	56.2	.....
1964	58.7	81.0	38.7	44.5	58.2	63.1	.....	55.7	77.3	36.3	37.3	55.5	57.0	.....
1965	58.9	80.7	39.3	45.7	58.4	62.9	.....	56.2	77.5	37.1	38.9	56.0	57.8	.....
1966	59.2	80.4	40.3	48.2	58.7	63.0	.....	56.9	77.9	38.3	42.1	56.8	58.4	.....
1967	59.6	80.4	41.1	48.4	59.2	62.8	.....	57.3	78.0	39.0	42.2	57.2	58.2	.....
1968	59.6	80.1	41.6	48.3	59.3	62.2	.....	57.5	77.8	39.6	42.2	57.4	58.0	.....
1969	60.1	79.8	42.7	49.4	59.9	62.1	.....	58.0	77.6	40.7	43.4	58.0	58.1	.....
1970	60.4	79.7	43.3	49.9	60.2	61.8	.....	57.4	76.2	40.8	42.3	57.5	56.8	.....
1971	60.2	79.1	43.4	49.7	60.1	60.9	.....	56.6	74.9	40.4	41.3	56.8	54.9	.....
1972	60.4	78.9	43.9	51.9	60.4	60.2	59.9	57.0	75.0	41.0	43.5	57.4	54.1	53.7
1973	60.8	78.8	44.7	53.7	60.8	60.5	60.2	57.8	75.5	42.0	45.9	58.2	55.0	54.5
1974	61.3	78.7	45.7	54.8	61.4	60.3	59.8	57.8	74.9	42.6	46.0	58.3	54.3	53.5
1975	61.2	77.9	46.3	54.0	61.5	59.6	58.8	56.1	71.7	42.0	43.3	56.7	51.4	50.1
1976	61.6	77.5	47.3	54.5	61.8	59.8	59.0	56.8	72.0	43.2	44.2	57.5	52.0	50.8
1977	62.3	77.7	48.4	56.0	62.5	60.4	59.8	57.9	72.8	44.5	46.1	58.6	52.5	51.4
1978	63.2	77.9	50.0	57.8	63.3	62.2	61.5	59.3	73.8	46.4	48.3	60.0	54.7	53.6
1979	63.7	77.8	50.9	57.9	63.9	62.2	61.4	59.9	73.8	47.5	48.5	60.6	55.2	53.8
1980	63.8	77.4	51.5	56.7	64.1	61.7	61.0	59.2	72.0	47.7	46.6	60.0	53.6	52.3
1981	63.9	77.0	52.1	55.4	64.3	61.3	60.8	59.0	71.3	48.0	44.6	60.0	52.6	51.3
1982	64.0	76.6	52.6	54.1	64.3	61.6	61.0	57.8	69.0	47.7	41.5	58.8	50.9	49.4
1983	64.0	76.4	52.9	53.5	64.3	62.1	61.5	57.9	68.8	48.0	41.5	58.9	51.0	49.5
1984	64.4	76.4	53.6	53.9	64.6	62.6	62.2	59.5	70.7	49.5	43.7	60.5	53.6	52.3
1985	64.8	76.3	54.5	54.5	65.0	63.3	62.9	60.1	70.9	50.4	44.4	61.0	54.7	53.4
1986	65.3	76.3	55.3	54.7	65.5	63.7	63.3	60.7	71.0	51.4	44.6	61.5	55.4	54.1
1987	65.6	76.2	56.0	54.7	65.8	64.3	63.8	61.5	71.5	52.5	45.5	62.3	56.8	55.6
1988	65.9	76.2	56.6	55.3	66.2	64.0	63.8	62.3	72.0	53.4	46.8	63.1	57.4	56.3
1989	66.5	76.4	57.4	55.9	66.7	64.7	64.2	63.0	72.5	54.3	47.5	63.8	58.2	56.9
1990	66.5	76.4	57.5	53.7	66.9	64.4	64.0	62.8	72.0	54.3	45.3	63.7	57.9	56.7
1991	66.2	75.8	57.4	51.6	66.6	63.8	63.3	61.7	70.4	53.7	42.0	62.6	56.7	55.4
1992	66.4	75.8	57.8	51.3	66.8	64.6	63.9	61.5	69.8	53.8	41.0	62.4	56.4	54.9
1993	66.3	75.4	57.9	51.5	66.8	63.8	63.2	61.7	70.0	54.1	41.7	62.7	56.3	55.0
1994	66.6	75.1	58.8	52.7	67.1	63.9	63.4	62.5	70.4	55.3	43.4	63.5	57.2	56.1
1995	66.6	75.0	58.9	53.5	67.1	64.3	63.7	62.9	70.8	55.6	44.2	63.8	58.1	57.1
1996	66.8	74.9	59.3	52.3	67.2	64.6	64.1	63.2	70.9	56.0	43.5	64.1	58.6	57.4
1997	67.1	75.0	59.8	51.6	67.5	65.2	64.7	63.8	71.3	56.3	43.4	64.6	59.4	58.2
1998	67.1	74.9	59.8	52.8	67.3	66.0	65.6	64.1	71.6	57.1	45.1	64.7	60.9	59.7
1997: Jan	67.0	75.0	59.6	51.7	67.4	64.8	64.5	63.5	71.1	56.5	43.0	64.4	58.7	57.5
Feb	67.0	75.0	59.6	52.4	67.4	64.8	64.4	63.4	71.1	56.4	43.3	64.4	58.7	57.4
Mar	67.1	75.1	59.8	52.0	67.5	65.1	64.5	63.7	71.3	56.7	43.5	64.6	59.1	57.7
Apr	67.1	75.0	59.8	52.1	67.5	65.0	64.3	63.8	71.3	56.9	43.8	64.7	59.1	57.9
May	67.1	75.0	59.8	52.0	67.5	65.3	64.4	63.8	71.5	56.7	43.8	64.7	59.2	57.8
June	67.1	75.0	59.8	51.2	67.5	65.0	64.4	63.8	71.3	56.8	42.6	64.7	59.0	57.6
July	67.1	74.9	59.9	51.7	67.5	65.1	64.6	63.9	71.4	56.9	43.1	64.7	59.7	58.4
Aug	67.1	75.0	59.9	51.2	67.4	65.8	65.6	63.9	71.4	56.9	43.0	64.6	60.3	59.4
Sept	67.1	74.9	59.9	50.9	67.4	65.6	65.4	63.8	71.3	56.9	42.6	64.5	60.1	59.2
Oct	67.0	74.8	59.7	51.0	67.4	64.9	64.5	63.8	71.3	56.9	43.3	64.7	59.7	58.4
Nov	67.1	75.0	59.7	52.0	67.4	65.4	64.7	64.0	71.6	57.0	44.2	64.8	59.9	58.6
Dec	67.2	74.9	60.0	51.5	67.5	65.7	65.1	64.0	71.4	57.1	44.2	64.8	59.9	58.5
1998: Jan	67.2	75.0	60.0	52.9	67.5	66.0	65.2	64.1	71.6	57.1	45.4	64.8	60.6	59.1
Feb	67.2	75.0	60.0	53.1	67.4	65.9	65.4	64.1	71.6	57.1	45.3	64.8	60.5	59.2
Mar	67.1	74.9	60.0	53.0	67.4	66.2	65.7	64.0	71.4	57.1	45.1	64.6	60.8	59.6
Apr	67.0	74.8	59.8	51.9	67.3	65.9	65.5	64.1	71.8	57.0	44.9	64.8	60.9	59.6
May	67.0	74.8	59.8	52.4	67.3	65.6	64.8	64.1	71.6	57.1	44.9	64.8	60.5	59.0
June	67.0	74.8	59.8	53.0	67.2	66.1	65.8	64.0	71.5	57.0	45.2	64.6	61.1	60.2
July	66.9	74.9	59.6	52.3	67.1	65.9	65.8	63.9	71.5	56.9	44.9	64.5	60.6	59.5
Aug	66.9	74.6	59.8	52.6	67.2	65.6	65.3	63.9	71.3	57.0	44.8	64.6	60.6	59.5
Sept	67.1	74.9	59.9	53.5	67.4	66.0	65.5	64.1	71.6	57.2	45.4	64.7	60.8	59.6
Oct	67.1	74.8	59.9	53.1	67.3	66.0	66.0	64.0	71.6	57.1	44.7	64.6	61.0	60.3
Nov	67.1	74.9	59.7	52.4	67.2	66.2	66.0	64.1	71.7	57.0	44.6	64.7	61.2	60.4
Dec	67.2	75.0	59.9	52.9	67.4	66.2	65.8	64.2	71.7	57.3	45.5	64.8	61.6	60.6

[1] Civilian labor force or civilian employment as percent of civilian noninstitutional population in group specified.

Note.—Data relate to persons 16 years of age and over.
See footnote 5 and Note, Table B–35.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–40.—*Civilian labor force participation rate by demographic characteristic, 1955–98*

[Percent;[1] monthly data seasonally adjusted]

Year or month	All civilian workers	White						Black and other or black						
		Total	Males			Females			Total	Males			Females		
			Total	16–19 years	20 years and over	Total	16–19 years	20 years and over		Total	16–19 years	20 years and over	Total	16–19 years	20 years and over
									Black and other						
1955	59.3	58.7	85.4	58.6	87.5	34.5	40.7	34.0	64.2	85.1	60.8	87.8	46.1	32.7	47.5
1956	60.0	59.4	85.6	60.4	87.6	35.7	43.1	35.1	64.9	85.1	61.5	87.8	47.3	36.3	48.4
1957	59.6	59.1	84.8	59.2	86.9	35.7	42.2	35.2	64.4	84.2	58.8	87.0	47.1	33.2	48.6
1958	59.5	58.9	84.3	56.5	86.6	35.8	40.1	35.5	64.8	84.1	57.3	87.1	48.0	31.9	49.8
1959	59.3	58.7	83.8	55.9	86.3	36.0	39.6	35.6	64.3	83.4	55.5	86.7	47.7	28.2	49.8
1960	59.4	58.8	83.4	55.9	86.0	36.5	40.3	36.2	64.5	83.0	57.6	86.2	48.2	32.9	49.9
1961	59.3	58.8	83.0	54.5	85.7	36.9	40.6	36.6	64.1	82.2	55.8	85.5	48.3	32.8	50.1
1962	58.8	58.3	82.1	53.8	84.9	36.7	39.8	36.5	63.2	80.8	53.5	84.2	48.0	33.1	49.6
1963	58.7	58.2	81.5	53.1	84.4	37.2	38.7	37.0	63.0	80.2	51.5	83.9	48.1	32.6	49.9
1964	58.7	58.2	81.1	52.7	84.2	37.5	37.8	37.5	63.1	80.1	49.9	84.1	48.6	31.7	50.7
1965	58.9	58.4	80.8	54.1	83.9	38.1	39.2	38.0	62.9	79.6	51.3	83.7	48.6	29.5	51.1
1966	59.2	58.7	80.6	55.9	83.6	39.2	42.6	38.8	63.0	79.0	51.4	83.3	49.4	33.5	51.6
1967	59.6	59.2	80.6	56.3	83.5	40.1	42.5	39.8	62.8	78.5	51.1	82.9	49.5	35.2	51.6
1968	59.6	59.3	80.4	55.9	83.2	40.7	43.0	40.4	62.2	77.7	49.7	82.2	49.3	34.8	51.4
1969	60.1	59.9	80.2	56.8	83.0	41.8	44.6	41.5	62.1	76.9	49.6	81.4	49.8	34.6	52.0
1970	60.4	60.2	80.0	57.5	82.8	42.6	45.6	42.2	61.8	76.5	47.4	81.4	49.5	34.1	51.8
1971	60.2	60.1	79.6	57.9	82.3	42.6	45.4	42.3	60.9	74.9	44.7	80.0	49.2	31.2	51.8
1972	60.4	60.4	79.6	60.1	82.0	43.2	48.1	42.7	60.2	73.9	46.0	78.6	48.8	32.3	51.2
									Black						
1972	60.4	60.4	79.6	60.1	82.0	43.2	48.1	42.7	59.9	73.6	46.3	78.5	48.7	32.2	51.2
1973	60.8	60.8	79.4	62.0	81.6	44.1	50.1	43.5	60.2	73.4	45.7	78.4	49.3	34.2	51.6
1974	61.3	61.4	79.4	62.9	81.4	45.2	51.7	44.4	59.8	72.9	46.7	77.6	49.0	33.4	51.4
1975	61.2	61.5	78.7	61.9	80.7	45.9	51.5	45.3	58.8	70.9	42.6	76.0	48.8	34.2	51.1
1976	61.6	61.8	78.4	62.3	80.3	46.9	52.8	46.2	59.0	70.0	41.3	75.4	49.8	32.9	52.5
1977	62.3	62.5	78.5	64.0	80.2	48.0	54.5	47.3	59.8	70.6	43.2	75.6	50.8	32.9	53.6
1978	63.2	63.3	78.6	65.0	80.1	49.4	56.7	48.7	61.5	71.5	44.9	76.2	53.1	37.3	55.5
1979	63.7	63.9	78.6	64.8	80.1	50.5	57.4	49.8	61.4	71.3	43.6	76.3	53.1	36.8	55.4
1980	63.8	64.1	78.2	63.7	79.8	51.2	56.2	50.6	61.0	70.3	43.2	75.1	53.1	34.9	55.6
1981	63.9	64.3	77.9	62.4	79.5	51.9	55.4	51.5	60.8	70.0	41.6	74.5	53.5	34.0	56.0
1982	64.0	64.3	77.4	60.0	79.2	52.4	55.0	52.2	61.0	70.1	39.8	74.7	53.7	33.5	56.2
1983	64.0	64.3	77.1	59.4	78.9	52.7	54.5	52.5	61.5	70.6	39.9	75.2	54.2	33.0	56.8
1984	64.4	64.6	77.1	59.0	78.7	53.3	55.4	53.1	62.2	70.8	41.7	74.8	55.2	35.0	57.6
1985	64.8	65.0	77.0	59.7	78.5	54.1	55.2	54.0	62.9	70.8	44.6	74.4	56.5	37.9	58.6
1986	65.3	65.5	76.9	59.3	78.5	55.0	56.3	54.9	63.3	71.2	43.7	74.8	56.9	39.1	58.9
1987	65.6	65.8	76.8	59.0	78.4	55.7	56.5	55.6	63.8	71.1	43.6	74.7	58.0	39.6	60.0
1988	65.9	66.2	76.9	60.0	78.3	56.4	57.2	56.3	63.8	71.0	43.8	74.6	58.0	37.9	60.1
1989	66.5	66.7	77.1	61.0	78.5	57.2	57.1	57.2	64.2	71.0	44.6	74.4	58.7	40.4	60.6
1990	66.5	66.9	77.1	59.6	78.5	57.4	55.3	57.6	64.0	71.0	40.7	75.0	58.3	36.8	60.6
1991	66.2	66.6	76.5	57.3	78.0	57.4	54.1	57.6	63.3	70.4	37.3	74.6	57.5	33.5	60.0
1992	66.4	66.8	76.5	56.9	78.0	57.7	52.5	58.1	63.9	70.7	40.6	74.3	58.5	35.2	60.8
1993	66.3	66.8	76.2	56.6	77.7	58.0	53.5	58.3	63.7	69.6	39.5	73.2	57.9	34.6	60.2
1994	66.6	67.1	75.9	57.7	77.3	58.9	55.1	59.2	63.4	69.1	40.8	72.5	58.7	36.3	60.9
1995	66.6	67.1	75.7	58.5	77.1	59.0	55.5	59.2	63.7	69.0	40.1	72.5	59.5	39.8	61.4
1996	66.8	67.2	75.8	57.1	77.3	59.1	54.7	59.4	64.1	68.7	39.5	72.3	60.4	38.9	62.6
1997	67.1	67.5	75.9	56.1	77.5	59.5	54.1	59.9	64.7	68.3	37.4	72.2	61.7	39.9	64.0
1998	67.1	67.3	75.6	56.6	77.2	59.4	55.4	59.7	65.6	69.0	40.7	72.5	62.8	42.5	64.8
1997: Jan	67.0	67.4	75.9	55.8	77.6	59.4	54.3	59.8	64.5	68.2	39.2	71.8	61.4	40.8	63.5
Feb	67.0	67.4	75.8	56.0	77.4	59.4	54.6	59.8	64.4	68.1	40.4	71.5	61.4	41.4	63.5
Mar	67.1	67.5	76.0	56.3	77.6	59.5	53.9	59.9	64.5	67.9	38.4	71.7	61.6	42.4	63.6
Apr	67.1	67.5	76.0	56.1	77.6	59.6	55.7	59.8	64.3	67.8	38.3	71.6	61.4	37.9	63.8
May	67.1	67.5	75.8	56.6	77.4	59.6	53.9	60.0	64.4	68.0	37.9	71.7	61.5	37.3	64.0
June	67.1	67.5	75.8	55.4	77.5	59.7	54.4	60.1	64.4	68.6	37.5	72.4	61.0	36.5	63.6
July	67.1	67.5	75.8	55.8	77.4	59.6	55.2	60.0	64.6	68.2	34.0	72.4	61.7	38.7	64.0
Aug	67.1	67.4	75.8	55.4	77.5	59.6	53.7	60.0	65.6	69.5	37.8	73.4	62.4	39.8	64.7
Sept	67.1	67.4	75.7	55.8	77.3	59.6	53.7	60.0	65.4	68.8	35.6	72.8	62.6	40.2	64.9
Oct	67.0	67.4	75.8	56.7	77.3	59.5	53.0	60.0	64.5	68.3	37.0	72.2	61.4	38.9	63.7
Nov	67.1	67.4	75.9	58.0	77.4	59.4	53.5	59.8	64.7	68.2	36.9	72.0	61.9	42.0	63.9
Dec	67.2	67.5	75.8	55.9	77.4	59.6	53.8	60.0	65.1	68.2	36.0	72.1	62.5	43.6	64.5
1998: Jan	67.2	67.5	75.8	56.9	77.3	59.6	55.6	59.9	65.2	68.9	39.7	72.5	62.2	40.7	64.3
Feb	67.2	67.4	75.7	56.8	77.3	59.6	55.8	59.9	65.4	68.6	38.1	72.3	62.7	40.0	65.0
Mar	67.1	67.4	75.6	57.2	77.1	59.6	55.8	59.9	65.7	69.0	39.1	72.7	63.0	42.6	65.0
Apr	67.0	67.3	75.6	55.7	77.2	59.4	54.6	59.8	65.5	69.2	38.0	73.0	62.5	43.6	64.4
May	67.0	67.3	75.6	56.3	77.2	59.5	55.4	59.8	64.8	68.3	36.9	72.2	62.0	42.0	64.0
June	67.0	67.2	75.5	56.6	77.1	59.4	55.6	59.6	65.8	69.4	41.7	72.9	62.9	46.2	64.6
July	66.9	67.1	75.5	55.8	77.2	59.1	54.8	59.4	65.8	69.9	43.7	73.1	62.5	39.5	64.9
Aug	66.9	67.2	75.5	56.2	77.1	59.4	55.4	59.7	65.3	68.4	39.1	72.1	62.7	43.4	64.7
Sept	67.1	67.4	75.7	56.7	77.3	59.5	56.0	59.8	65.5	68.7	44.6	71.7	62.9	43.3	64.9
Oct	67.1	67.3	75.6	56.8	77.2	59.4	56.0	59.7	66.0	69.4	39.5	73.1	63.2	43.9	65.2
Nov	67.1	67.2	75.7	57.1	77.2	59.2	54.2	59.6	66.0	69.3	44.2	72.4	63.4	42.4	65.6
Dec	67.2	67.4	75.7	57.0	77.2	59.5	55.2	59.8	65.8	68.9	43.3	72.0	63.3	42.7	65.4

[1] Civilian labor force as percent of civilian noninstitutional population in group specified.

Note.—See Note, Table B–39.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–41.—*Civilian employment/population ratio by demographic characteristic, 1955–98*

[Percent;[1] monthly data seasonally adjusted]

Year or month	All civilian workers	White				Black and other or black					
			Males		Females			Males		Females		
		Total	Total	16–19 years	20 years and over	Total	16–19 years	20 years and over	Total	Total	16–19 years	20 years and over	Total	16–19 years	20 years and over
									Black and other						
1955	56.7	56.5	82.2	52.0	84.7	33.0	37.0	32.7	58.7	77.6	52.7	80.4	42.2	26.4	43.9
1956	57.5	57.3	82.7	54.1	85.0	34.2	38.9	33.8	59.5	78.4	52.2	81.3	43.0	28.0	44.7
1957	57.1	56.8	81.8	52.4	84.1	34.2	38.2	33.9	59.3	77.2	48.0	80.5	43.7	26.5	45.5
1958	55.3	55.3	79.2	47.6	81.8	33.6	35.0	33.5	56.7	72.5	42.0	76.0	42.8	22.8	45.0
1959	56.0	55.9	79.9	48.1	82.8	34.0	34.8	34.0	57.5	73.8	41.4	77.6	43.2	20.3	45.7
1960	56.1	55.9	79.4	48.1	82.4	34.6	35.1	34.5	57.9	74.1	43.8	77.9	43.6	24.8	45.8
1961	55.4	55.3	78.2	45.9	81.4	34.5	34.6	34.5	56.2	71.7	41.0	75.5	42.6	23.2	44.8
1962	55.5	55.4	78.4	46.4	81.5	34.7	34.8	34.7	56.3	72.0	41.7	75.7	42.7	23.1	44.9
1963	55.4	55.3	77.7	44.7	81.1	35.0	32.9	35.2	56.2	71.8	37.4	76.2	42.7	21.3	45.2
1964	55.7	55.5	77.8	45.0	81.3	35.5	32.2	35.8	57.0	72.9	37.8	77.7	43.4	21.8	46.1
1965	56.2	56.0	77.9	47.1	81.5	36.2	33.7	36.5	57.8	73.7	39.4	78.7	44.1	20.2	47.3
1966	56.9	56.8	78.3	50.1	81.7	37.5	37.5	37.5	58.4	74.0	40.5	79.2	45.1	23.1	48.2
1967	57.3	57.2	78.4	50.2	81.7	38.3	37.7	38.3	58.2	73.8	38.8	79.4	45.0	24.8	47.9
1968	57.5	57.4	78.3	50.3	81.6	38.9	37.8	39.1	58.0	73.3	38.7	78.9	45.2	24.7	48.2
1969	58.0	58.0	78.2	51.1	81.4	40.1	39.5	40.1	58.1	72.8	39.0	78.4	45.9	25.1	48.9
1970	57.4	57.5	76.8	49.6	80.1	40.3	39.5	40.4	56.8	70.9	35.5	76.8	44.9	22.4	48.2
1971	56.6	56.8	75.7	49.2	79.0	39.9	38.6	40.1	54.9	68.1	31.8	74.2	43.9	20.2	47.3
1972	57.0	57.4	76.0	51.5	79.0	40.7	41.3	40.6	54.1	67.3	32.4	73.2	43.3	19.9	46.7
									Black						
1972	57.0	57.4	76.0	51.5	79.0	40.7	41.3	40.6	53.7	66.8	31.6	73.0	43.0	19.2	46.5
1973	57.8	58.2	76.5	54.3	79.2	41.8	43.6	41.6	54.5	67.5	32.8	73.7	43.8	22.0	47.2
1974	57.8	58.3	75.9	54.4	78.6	42.4	44.3	42.2	53.5	65.8	31.4	71.9	43.5	20.9	46.9
1975	56.1	56.7	73.0	50.6	75.7	42.0	42.5	41.9	50.1	60.6	26.3	66.5	41.6	20.2	44.9
1976	56.8	57.5	73.4	51.5	76.0	43.2	44.2	43.1	50.8	60.6	25.8	66.8	42.8	19.2	46.4
1977	57.9	58.6	74.1	54.4	76.5	44.5	45.9	44.4	51.4	61.4	26.4	67.5	43.3	18.5	47.0
1978	59.3	60.0	75.0	56.3	77.2	46.3	48.5	46.1	53.6	63.3	28.5	69.1	45.8	22.1	49.3
1979	59.9	60.6	75.1	55.7	77.3	47.5	49.4	47.3	53.8	63.4	28.7	69.1	46.0	22.4	49.3
1980	59.2	60.0	73.4	53.4	75.6	47.8	47.9	47.8	52.3	60.4	27.0	65.8	45.7	21.0	49.1
1981	59.0	60.0	72.8	51.3	75.1	48.3	46.2	48.5	51.3	59.1	24.6	64.5	45.1	19.7	48.5
1982	57.8	58.8	70.6	47.0	73.0	48.1	44.6	48.4	49.4	56.0	20.3	61.4	44.2	17.7	47.5
1983	57.9	58.9	70.4	47.4	72.6	48.5	44.5	48.9	49.5	56.3	20.4	61.6	44.1	17.0	47.4
1984	59.5	60.5	72.1	49.1	74.3	49.8	47.0	50.0	52.3	59.2	23.9	64.1	46.7	20.1	49.8
1985	60.1	61.0	72.3	49.9	74.3	50.7	47.1	51.0	53.4	60.0	26.3	64.6	48.1	23.1	50.9
1986	60.7	61.5	72.3	49.6	74.3	51.7	47.9	52.0	54.1	60.6	26.5	65.1	48.8	23.8	51.6
1987	61.5	62.3	72.7	49.9	74.7	52.8	49.0	53.1	55.6	62.0	28.5	66.4	50.3	25.8	53.0
1988	62.3	63.1	73.2	51.7	75.1	53.8	50.2	54.0	56.3	62.7	29.4	67.1	51.2	25.8	53.9
1989	63.0	63.8	73.7	52.6	75.4	54.6	50.5	54.9	56.9	62.8	30.4	67.0	52.0	27.1	54.6
1990	62.8	63.7	73.3	51.0	75.1	54.7	48.3	55.2	56.7	62.6	27.7	67.1	51.9	25.8	54.7
1991	61.7	62.6	71.6	47.2	73.5	54.2	45.9	54.8	55.4	61.3	23.8	65.9	50.6	21.5	53.6
1992	61.5	62.4	71.1	46.4	73.1	54.2	44.2	54.9	54.9	59.9	23.6	64.3	50.8	22.1	53.6
1993	61.7	62.7	71.4	46.6	73.3	54.6	45.7	55.2	55.0	60.0	23.6	64.3	50.9	21.6	53.8
1994	62.5	63.5	71.8	48.3	73.6	55.8	47.5	56.4	56.1	60.8	25.4	65.0	52.3	24.5	55.0
1995	62.9	63.8	72.0	49.4	73.8	56.1	48.1	56.7	57.1	61.7	25.2	66.1	53.4	26.2	56.1
1996	63.2	64.1	72.3	48.2	74.2	56.3	47.6	57.0	57.4	61.1	24.9	65.5	54.4	27.1	57.1
1997	63.8	64.6	72.7	48.1	74.7	57.0	47.2	57.8	58.2	61.4	23.7	66.1	55.6	28.5	58.4
1998	64.1	64.7	72.7	48.6	74.7	57.1	49.3	57.7	59.7	62.9	28.4	67.1	57.2	31.8	59.7
1997: Jan	63.5	64.4	72.5	47.4	74.5	56.8	46.9	57.5	57.5	60.7	23.1	65.3	54.9	29.4	57.6
Feb	63.4	64.4	72.4	47.8	74.4	56.8	46.5	57.5	57.4	60.9	25.8	65.2	54.7	29.0	57.3
Mar	63.7	64.6	72.7	47.9	74.7	56.9	46.8	57.6	57.7	60.5	22.7	65.3	55.4	32.3	57.8
Apr	63.8	64.7	72.7	47.8	74.8	57.0	48.9	57.6	57.9	60.8	23.3	65.5	55.5	27.8	58.4
May	63.8	64.7	72.9	49.2	74.8	57.0	46.9	57.8	57.8	61.0	24.5	65.6	55.2	25.3	58.2
June	63.8	64.7	72.6	46.8	74.7	57.2	47.6	57.8	57.6	60.9	22.2	65.7	54.8	26.3	57.8
July	63.9	64.7	72.7	47.3	74.7	57.1	47.4	57.8	58.4	61.7	22.2	66.5	55.8	28.3	58.7
Aug	63.9	64.6	72.6	47.0	74.7	57.1	46.9	57.8	59.4	63.0	24.9	67.7	56.4	29.3	59.2
Sept	63.8	64.5	72.5	47.8	74.6	57.0	46.3	57.8	59.2	62.2	22.6	67.1	56.7	29.1	59.5
Oct	63.8	64.7	72.6	48.5	74.6	57.1	46.8	57.9	58.4	61.8	26.3	66.2	55.6	27.8	58.4
Nov	64.0	64.8	72.9	50.5	74.8	57.1	47.5	57.8	58.6	62.0	24.8	66.5	55.8	28.7	58.5
Dec	64.0	64.8	72.8	49.6	74.7	57.3	47.9	58.0	58.5	61.2	22.8	65.9	56.3	28.8	59.1
1998: Jan	64.1	64.8	72.8	48.8	74.8	57.2	50.4	57.7	59.1	62.4	27.1	66.7	56.4	29.0	59.1
Feb	64.1	64.8	72.8	48.6	74.8	57.2	50.2	57.7	59.2	62.1	25.2	66.7	56.8	28.8	59.6
Mar	64.0	64.6	72.6	48.8	74.5	57.2	49.8	57.7	59.6	62.9	27.9	67.2	57.0	30.0	59.7
Apr	64.1	64.8	72.9	48.5	74.9	57.1	48.8	57.7	59.6	63.2	28.1	67.6	56.7	32.4	59.1
May	64.1	64.8	72.7	48.4	74.7	57.3	49.8	57.8	59.0	62.6	25.4	67.2	56.1	30.5	58.7
June	64.0	64.6	72.6	48.4	74.6	57.0	48.8	57.6	60.2	63.8	32.4	67.7	57.3	35.7	59.5
July	63.9	64.5	72.6	48.4	74.6	56.9	49.4	57.4	59.5	62.7	30.5	66.7	56.9	28.8	59.8
Aug	63.9	64.6	72.6	48.3	74.6	57.0	49.0	57.6	59.5	62.3	27.5	66.6	57.2	31.8	59.7
Sept	64.1	64.7	72.7	48.3	74.7	57.2	50.0	57.7	59.6	62.6	30.1	66.6	57.2	32.2	59.8
Oct	64.0	64.6	72.7	48.9	74.7	57.0	48.7	57.6	60.3	63.4	29.5	68.0	57.8	33.6	60.3
Nov	64.1	64.7	72.9	49.0	74.8	56.9	47.9	57.6	60.4	63.2	29.6	67.3	58.1	33.0	60.6
Dec	64.2	64.8	72.8	48.8	74.8	57.2	49.3	57.8	60.6	63.3	31.5	67.2	58.4	35.2	60.8

[1] Civilian employment as percent of civilian noninstitutional population in group specified.

Note.—Data relate to persons 16 years of age and over.
See footnote 5 and Note, Table B–35.
Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–42.—*Civilian unemployment rate, 1950–98*

[Percent;[1] monthly data seasonally adjusted]

Year or month	All civilian workers	Males			Females			Both sexes 16–19 years	White	Black and other	Black	Experienced wage and salary workers	Married men, spouse present[2]	Women who maintain families
		Total	16–19 years	20 years and over	Total	16–19 years	20 years and over							
1950	5.3	5.1	12.7	4.7	5.7	11.4	5.1	12.2	4.9	9.0	.....	6.0	4.6	.....
1951	3.3	2.8	8.1	2.5	4.4	8.3	4.0	8.2	3.1	5.3	.....	3.7	1.5	.....
1952	3.0	2.8	8.9	2.4	3.6	8.0	3.2	8.5	2.8	5.4	.....	3.4	1.4	.....
1953	2.9	2.8	7.9	2.5	3.3	7.2	2.9	7.6	2.7	4.5	.....	3.2	1.7	.....
1954	5.5	5.3	13.5	4.9	6.0	11.4	5.5	12.6	5.0	9.9	.....	6.2	4.0	.....
1955	4.4	4.2	11.6	3.8	4.9	10.2	4.4	11.0	3.9	8.7	.....	4.8	2.6	.....
1956	4.1	3.8	11.1	3.4	4.8	11.2	4.2	11.1	3.6	8.3	.....	4.4	2.3	.....
1957	4.3	4.1	12.4	3.6	4.7	10.6	4.1	11.6	3.8	7.9	.....	4.6	2.8	.....
1958	6.8	6.8	17.1	6.2	6.8	14.3	6.1	15.9	6.1	12.6	.....	7.3	5.1	.....
1959	5.5	5.2	15.3	4.7	5.9	13.5	5.2	14.6	4.8	10.7	.....	5.7	3.6	.....
1960	5.5	5.4	15.3	4.7	5.9	13.9	5.1	14.7	5.0	10.2	.....	5.7	3.7	.....
1961	6.7	6.4	17.1	5.7	7.2	16.3	6.3	16.8	6.0	12.4	.....	6.8	4.6	.....
1962	5.5	5.2	14.7	4.6	6.2	14.6	5.4	14.7	4.9	10.9	.....	5.6	3.6	.....
1963	5.7	5.2	17.2	4.5	6.5	17.2	5.4	17.2	5.0	10.8	.....	5.6	3.4	.....
1964	5.2	4.6	15.8	3.9	6.2	16.6	5.2	16.2	4.6	9.6	.....	5.0	2.8	.....
1965	4.5	4.0	14.1	3.2	5.5	15.7	4.5	14.8	4.1	8.1	.....	4.3	2.4	.....
1966	3.8	3.2	11.7	2.5	4.8	14.1	3.8	12.8	3.4	7.3	.....	3.5	1.9	.....
1967	3.8	3.1	12.3	2.3	5.2	13.5	4.2	12.9	3.4	7.4	.....	3.6	1.8	4.9
1968	3.6	2.9	11.6	2.2	4.8	14.0	3.8	12.7	3.2	6.7	.....	3.4	1.6	4.4
1969	3.5	2.8	11.4	2.1	4.7	13.3	3.7	12.2	3.1	6.4	.....	3.3	1.5	4.4
1970	4.9	4.4	15.0	3.5	5.9	15.6	4.8	15.3	4.5	8.2	.....	4.8	2.6	5.4
1971	5.9	5.3	16.6	4.4	6.9	17.2	5.7	16.9	5.4	9.9	.....	5.7	3.2	7.3
1972	5.6	5.0	15.9	4.0	6.6	16.7	5.4	16.2	5.1	10.0	10.4	5.3	2.8	7.2
1973	4.9	4.2	13.9	3.3	6.0	15.3	4.9	14.5	4.3	9.0	9.4	4.5	2.3	7.1
1974	5.6	4.9	15.6	3.8	6.7	16.6	5.5	16.0	5.0	9.9	10.5	5.3	2.7	7.0
1975	8.5	7.9	20.1	6.8	9.3	19.7	8.0	19.9	7.8	13.8	14.8	8.2	5.1	10.0
1976	7.7	7.1	19.2	5.9	8.6	18.7	7.4	19.0	7.0	13.1	14.0	7.3	4.2	10.1
1977	7.1	6.3	17.3	5.2	8.2	18.3	7.0	17.8	6.2	13.1	14.0	6.6	3.6	9.4
1978	6.1	5.3	15.8	4.3	7.2	17.1	6.0	16.4	5.2	11.9	12.8	5.6	2.8	8.5
1979	5.8	5.1	15.9	4.2	6.8	16.4	5.7	16.1	5.1	11.3	12.3	5.5	2.8	8.3
1980	7.1	6.9	18.3	5.9	7.4	17.2	6.4	17.8	6.3	13.1	14.3	6.9	4.2	9.2
1981	7.6	7.4	20.1	6.3	7.9	19.0	6.8	19.6	6.7	14.2	15.6	7.3	4.3	10.4
1982	9.7	9.9	24.4	8.6	9.4	21.9	8.3	23.2	8.6	17.3	18.9	9.3	6.5	11.7
1983	9.6	9.9	23.3	8.9	9.2	21.3	8.1	22.4	8.4	17.8	19.5	9.2	6.5	12.2
1984	7.5	7.4	19.6	6.6	7.6	18.0	6.8	18.9	6.5	14.4	15.9	7.1	4.6	10.3
1985	7.2	7.0	19.5	6.2	7.4	17.6	6.6	18.6	6.2	13.7	15.1	6.8	4.3	10.4
1986	7.0	6.9	19.0	6.1	7.1	17.6	6.2	18.3	6.0	13.1	14.5	6.6	4.4	9.8
1987	6.2	6.2	17.8	5.4	6.2	15.9	5.4	16.9	5.3	11.6	13.0	5.8	3.9	9.2
1988	5.5	5.5	16.0	4.8	5.6	14.4	4.9	15.3	4.7	10.4	11.7	5.2	3.3	8.1
1989	5.3	5.2	15.9	4.5	5.4	14.0	4.7	15.0	4.5	10.0	11.4	5.0	3.0	8.1
1990	5.6	5.7	16.3	5.0	5.5	14.7	4.9	15.5	4.8	10.1	11.4	5.3	3.4	8.3
1991	6.8	7.2	19.8	6.4	6.4	17.5	5.7	18.7	6.1	11.1	12.5	6.6	4.4	9.3
1992	7.5	7.9	21.5	7.1	7.0	18.6	6.3	20.1	6.6	12.7	14.2	7.2	5.1	10.0
1993	6.9	7.2	20.4	6.4	6.6	17.5	5.9	19.0	6.1	11.7	13.0	6.6	4.4	9.7
1994	6.1	6.2	19.0	5.4	6.0	16.2	5.4	17.6	5.3	10.5	11.5	5.9	3.7	8.9
1995	5.6	5.6	18.4	4.8	5.6	16.1	4.9	17.3	4.9	9.6	10.4	5.4	3.3	8.0
1996	5.4	5.4	18.1	4.6	5.4	15.2	4.8	16.7	4.7	9.3	10.5	5.2	3.0	8.2
1997	4.9	4.9	16.9	4.2	5.0	15.0	4.4	16.0	4.2	8.8	10.0	4.7	2.7	8.1
1998	4.5	4.4	16.2	3.7	4.6	12.9	4.1	14.6	3.9	7.8	8.9	4.3	2.4	7.2
1997: Jan	5.3	5.3	18.1	4.5	5.2	15.7	4.6	17.0	4.5	9.3	10.8	5.1	2.8	8.7
Feb	5.3	5.2	17.7	4.4	5.4	17.1	4.6	17.4	4.5	9.4	10.8	5.0	2.8	8.8
Mar	5.1	5.1	17.7	4.3	5.2	15.0	4.6	16.4	4.4	9.2	10.5	4.9	2.7	8.7
Apr	5.0	5.0	17.6	4.3	5.0	14.1	4.5	15.9	4.3	9.0	10.0	4.8	2.7	7.8
May	4.9	4.7	15.6	4.0	5.2	15.9	4.5	15.7	4.1	9.2	10.3	4.7	2.7	7.7
June	5.0	5.0	18.8	4.2	5.0	14.4	4.4	16.7	4.2	9.2	10.6	4.8	2.7	8.2
July	4.9	4.7	17.4	4.0	5.0	15.9	4.3	16.7	4.2	8.3	9.5	4.6	2.7	7.8
Aug	4.9	4.8	17.5	4.0	4.9	14.5	4.3	16.1	4.2	8.4	9.5	4.7	2.6	8.1
Sept	4.9	4.7	17.1	4.0	5.0	15.4	4.4	16.3	4.2	8.3	9.5	4.7	2.6	7.8
Oct	4.7	4.7	16.2	4.1	4.7	14.1	4.1	15.2	4.1	8.2	9.5	4.5	2.6	7.8
Nov	4.6	4.6	15.6	3.9	4.6	14.2	4.0	15.0	3.9	8.4	9.5	4.4	2.4	7.9
Dec	4.7	4.7	14.1	4.1	4.8	14.1	4.1	14.1	3.9	8.8	10.1	4.5	2.6	7.8
1998: Jan	4.6	4.5	16.2	3.8	4.7	12.1	4.2	14.2	4.0	8.2	9.4	4.5	2.5	7.6
Feb	4.6	4.5	16.6	3.8	4.8	12.7	4.2	14.7	3.9	8.2	9.4	4.4	2.5	7.5
Mar	4.7	4.6	16.3	3.9	4.8	13.4	4.2	14.9	4.0	8.1	9.2	4.5	2.5	7.5
Apr	4.3	4.1	14.2	3.5	4.6	12.6	4.1	13.5	3.7	7.6	9.0	4.1	2.3	7.5
May	4.4	4.3	15.9	3.6	4.5	12.6	3.9	14.3	3.8	7.7	8.9	4.3	2.4	7.5
June	4.5	4.4	15.9	3.7	4.7	13.6	4.1	14.8	4.0	7.6	8.5	4.3	2.2	7.1
July	4.5	4.5	15.9	3.8	4.5	12.2	4.0	14.2	3.8	8.1	9.6	4.4	2.3	6.9
Aug	4.5	4.4	15.9	3.7	4.7	13.8	4.0	14.9	3.9	7.6	8.9	4.4	2.3	6.8
Sept	4.5	4.5	17.4	3.7	4.5	12.9	4.0	15.2	3.9	7.9	9.0	4.4	2.3	7.6
Oct	4.5	4.4	16.7	3.6	4.7	14.8	4.0	15.7	3.9	7.6	8.6	4.3	2.3	6.9
Nov	4.4	4.3	16.5	3.5	4.6	13.3	4.0	15.0	3.8	7.5	8.6	4.2	2.2	6.9
Dec	4.3	4.3	16.4	3.6	4.3	11.3	3.9	14.0	3.8	7.0	7.9	4.1	2.3	6.3

[1] Unemployed as percent of civilian labor force in group specified.
[2] Data for 1950 are for March; data for 1951–54 are for April.

Note.—Data relate to persons 16 years of age and over.
See footnote 5 and Note, Table B–35.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–43.—*Civilian unemployment rate by demographic characteristic, 1955–98*

[Percent;[1] monthly data seasonally adjusted]

Year or month	All civilian workers	White				Black and other or black			
		Total	Males		Females		Males		Females	
			Total	16–19 years	20 years and over	Total	16–19 years	20 years and over	Total	16–19 years	20 years and over
						Black and other					
1955	4.4	3.9	3.7	11.3	3.3	4.3	9.1	3.9	8.7	8.8	13.4	8.4	8.5	19.2	7.7
1956	4.1	3.6	3.4	10.5	3.0	4.2	9.7	3.7	8.3	7.9	15.0	7.4	8.9	22.8	7.8
1957	4.3	3.8	3.6	11.5	3.2	4.3	9.5	3.8	7.9	8.3	18.4	7.6	7.3	20.2	6.4
1958	6.8	6.1	6.1	15.7	5.5	6.2	12.7	5.6	12.6	13.7	26.8	12.7	10.8	28.4	9.5
1959	5.5	4.8	4.6	14.0	4.1	5.3	12.0	4.7	10.7	11.5	25.2	10.5	9.4	27.7	8.3
1960	5.5	5.0	4.8	14.0	4.2	5.3	12.7	4.6	10.2	10.7	24.0	9.6	9.4	24.8	8.3
1961	6.7	6.0	5.7	15.7	5.1	6.5	14.8	5.7	12.4	12.8	26.8	11.7	11.9	29.2	10.6
1962	5.5	4.9	4.6	13.7	4.0	5.5	12.8	4.7	10.9	10.9	22.0	10.0	11.0	30.2	9.6
1963	5.7	5.0	4.7	15.9	3.9	5.8	15.1	4.8	10.8	10.5	27.3	9.2	11.2	34.7	9.4
1964	5.2	4.6	4.1	14.7	3.4	5.5	14.9	4.6	9.6	8.9	24.3	7.7	10.7	31.6	9.0
1965	4.5	4.1	3.6	12.9	2.9	5.0	14.0	4.0	8.1	7.4	23.3	6.0	9.2	31.7	7.5
1966	3.8	3.4	2.8	10.5	2.2	4.3	12.1	3.3	7.3	6.3	21.3	4.9	8.7	31.3	6.6
1967	3.8	3.4	2.7	10.7	2.1	4.6	11.5	3.8	7.4	6.0	23.9	4.3	9.1	29.6	7.1
1968	3.6	3.2	2.6	10.1	2.0	4.3	12.1	3.4	6.7	5.6	22.1	3.9	8.3	28.7	6.3
1969	3.5	3.1	2.5	10.0	1.9	4.2	11.5	3.4	6.4	5.3	21.4	3.7	7.8	27.6	5.8
1970	4.9	4.5	4.0	13.7	3.2	5.4	13.4	4.4	8.2	7.3	25.0	5.6	9.3	34.5	6.9
1971	5.9	5.4	4.9	15.1	4.0	6.3	15.1	5.3	9.9	9.1	28.8	7.3	10.9	35.4	8.7
1972	5.6	5.1	4.5	14.2	3.6	5.9	14.2	4.9	10.0	8.9	29.7	6.9	11.4	38.4	8.8
						Black									
1972	5.6	5.1	4.5	14.2	3.6	5.9	14.2	4.9	10.4	9.3	31.7	7.0	11.8	40.5	9.0
1973	4.9	4.3	3.8	12.3	3.0	5.3	13.0	4.3	9.4	8.0	27.8	6.0	11.1	36.1	8.6
1974	5.6	5.0	4.4	13.5	3.5	6.1	14.5	5.1	10.5	9.8	33.1	7.4	11.3	37.4	8.8
1975	8.5	7.8	7.2	18.3	6.2	8.6	17.4	7.5	14.8	14.8	38.1	12.5	14.8	41.0	12.2
1976	7.7	7.0	6.4	17.3	5.6	7.9	16.4	6.8	14.0	13.7	37.5	11.4	14.3	41.6	11.7
1977	7.1	6.2	5.5	15.0	4.7	7.3	15.9	6.2	14.0	13.3	39.2	10.7	14.9	43.4	12.3
1978	6.1	5.2	4.6	13.5	3.7	6.2	14.4	5.2	12.8	11.8	36.7	9.3	13.8	40.8	11.2
1979	5.8	5.1	4.5	13.9	3.6	5.9	14.0	5.0	12.3	11.4	34.2	9.3	13.3	39.1	10.9
1980	7.1	6.3	6.1	16.2	5.3	6.5	14.8	5.6	14.3	14.5	37.5	12.4	14.0	39.8	11.9
1981	7.6	6.7	6.5	17.9	5.6	6.9	16.6	5.9	15.6	15.7	40.7	13.5	15.6	42.2	13.4
1982	9.7	8.6	8.8	21.7	7.8	8.3	19.0	7.3	18.9	20.1	48.9	17.8	17.6	47.1	15.4
1983	9.6	8.4	8.8	20.2	7.9	7.9	18.3	6.9	19.5	20.3	48.8	18.1	18.6	48.2	16.5
1984	7.5	6.5	6.4	16.8	5.7	6.5	15.2	5.8	15.9	16.4	42.7	14.3	15.4	42.6	13.5
1985	7.2	6.2	6.1	16.5	5.4	6.4	14.8	5.7	15.1	15.3	41.0	13.2	14.9	39.2	13.1
1986	7.0	6.0	6.0	16.3	5.3	6.1	14.9	5.4	14.5	14.8	39.3	12.9	14.2	39.2	12.4
1987	6.2	5.3	5.4	15.5	4.8	5.2	13.4	4.6	13.0	12.7	34.4	11.1	13.2	34.9	11.6
1988	5.5	4.7	4.7	13.9	4.1	4.7	12.3	4.1	11.7	11.7	32.7	10.1	11.7	32.0	10.4
1989	5.3	4.5	4.5	13.7	3.9	4.5	11.5	4.0	11.4	11.5	31.9	10.0	11.4	33.0	9.8
1990	5.6	4.8	4.9	14.3	4.3	4.7	12.6	4.1	11.4	11.9	31.9	10.4	10.9	29.9	9.7
1991	6.8	6.1	6.5	17.6	5.8	5.6	15.2	5.0	12.5	13.0	36.3	11.5	12.0	36.0	10.6
1992	7.5	6.6	7.0	18.5	6.4	6.1	15.8	5.5	14.2	15.2	42.0	13.5	13.2	37.2	11.8
1993	6.9	6.1	6.3	17.7	5.7	5.7	14.7	5.2	13.0	13.8	40.1	12.1	12.1	37.4	10.7
1994	6.1	5.3	5.4	16.3	4.8	5.2	13.8	4.6	11.5	12.0	37.6	10.3	11.0	32.6	9.8
1995	5.6	4.9	4.9	15.6	4.3	4.8	13.4	4.3	10.4	10.6	37.1	8.8	10.2	34.3	8.6
1996	5.4	4.7	4.7	15.5	4.1	4.7	12.9	4.1	10.5	11.1	36.9	9.4	10.0	30.3	8.7
1997	4.9	4.2	4.2	14.3	3.6	4.2	12.8	3.7	10.0	10.2	36.5	8.5	9.9	28.7	8.8
1998	4.5	3.9	3.9	14.1	3.2	3.9	10.9	3.4	8.9	8.9	30.1	7.4	9.0	25.3	7.9
1997: Jan	5.3	4.5	4.6	15.0	4.0	4.4	13.6	3.8	10.8	11.0	41.0	9.0	10.5	28.0	9.4
Feb	5.3	4.5	4.5	14.7	3.9	4.5	14.7	3.8	10.8	10.6	36.1	8.8	11.0	30.1	9.7
Mar	5.1	4.4	4.4	15.0	3.7	4.4	13.1	3.8	10.5	11.0	40.8	9.0	10.1	23.8	9.1
Apr	5.0	4.3	4.3	14.8	3.7	4.2	12.2	3.7	10.0	10.4	39.0	8.5	9.6	26.7	8.6
May	4.9	4.1	3.9	13.0	3.4	4.3	13.0	3.8	10.3	10.2	35.3	8.6	10.3	32.2	9.1
June	5.0	4.2	4.2	15.6	3.6	4.2	12.5	3.7	10.6	11.1	40.6	9.2	10.1	28.0	9.1
July	4.9	4.2	4.2	15.2	3.5	4.2	14.2	3.6	9.5	9.6	34.8	8.2	9.5	26.8	8.4
Aug	4.9	4.2	4.2	15.2	3.6	4.2	12.6	3.6	9.5	9.4	34.2	7.8	9.6	26.2	8.5
Sept	4.9	4.2	4.1	14.3	3.5	4.4	13.9	3.8	9.5	9.5	36.3	7.9	9.5	27.6	8.3
Oct	4.7	4.1	4.2	14.5	3.5	4.0	11.8	3.5	9.5	9.5	29.0	8.3	9.5	28.5	8.3
Nov	4.6	3.9	4.0	13.0	3.4	3.8	11.2	3.3	9.5	9.2	32.7	7.7	9.9	31.7	8.4
Dec	4.7	3.9	3.9	11.3	3.5	3.9	10.9	3.4	10.1	10.2	36.7	8.6	9.9	34.0	8.3
1998: Jan	4.6	4.0	3.9	14.1	3.3	4.0	9.4	3.7	9.4	9.4	31.7	7.9	9.4	28.8	8.1
Feb	4.6	3.9	3.9	14.4	3.3	4.0	10.1	3.6	9.4	9.4	34.0	7.8	9.5	28.0	8.3
Mar	4.7	4.0	4.0	14.7	3.3	4.0	10.7	3.6	9.2	8.9	28.5	7.6	9.5	29.5	8.2
Apr	4.3	3.7	3.6	12.9	3.0	3.9	10.7	3.4	9.0	8.6	26.0	7.5	9.3	25.7	8.1
May	4.4	3.8	3.8	14.0	3.2	3.7	10.1	3.3	8.9	8.3	31.2	6.9	9.5	27.4	8.3
June	4.5	4.0	3.9	14.4	3.3	4.0	12.3	3.4	8.5	8.2	22.4	7.1	8.8	22.6	7.8
July	4.5	3.8	3.9	13.2	3.3	3.8	9.7	3.4	9.6	10.2	30.2	8.7	9.0	27.0	7.9
Aug	4.5	3.9	3.9	14.2	3.3	4.0	11.5	3.5	8.9	9.0	29.7	7.6	8.8	26.8	7.6
Sept	4.5	3.9	4.0	14.7	3.3	3.8	10.8	3.4	9.0	9.0	32.7	7.1	9.0	25.7	7.9
Oct	4.5	3.9	3.9	14.1	3.2	4.0	13.0	3.4	8.6	8.6	34.7	6.9	8.5	23.5	7.5
Nov	4.4	3.8	3.7	14.1	3.1	3.9	11.6	3.4	8.6	8.8	33.0	7.0	8.4	22.1	7.6
Dec	4.3	3.8	3.8	14.5	3.2	3.8	10.6	3.3	7.9	8.1	27.3	6.7	7.6	17.6	7.0

[1] Unemployed as percent of civilian labor force in group specified.

Note.—See Note, Table B–42.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–44.—*Unemployment by duration and reason, 1950–98*

[Thousands of persons, except as noted; monthly data seasonally adjusted[1]]

Year or month	Unemployment	Duration of unemployment						Reason for unemployment					
		Less than 5 weeks	5–14 weeks	15–26 weeks	27 weeks and over	Average (mean) duration (weeks)	Median duration (weeks)	Job losers[3]			Job leavers	Reentrants	New entrants
								Total	On layoff	Other			
1950	3,288	1,450	1,055	425	357	12.1							
1951	2,055	1,177	574	166	137	9.7							
1952	1,883	1,135	516	148	84	8.4							
1953	1,834	1,142	482	132	78	8.0							
1954	3,532	1,605	1,116	495	317	11.8							
1955	2,852	1,335	815	366	336	13.0							
1956	2,750	1,412	805	301	232	11.3							
1957	2,859	1,408	891	321	239	10.5							
1958	4,602	1,753	1,396	785	667	13.9							
1959	3,740	1,585	1,114	469	571	14.4							
1960	3,852	1,719	1,176	503	454	12.8							
1961	4,714	1,806	1,376	728	804	15.6							
1962	3,911	1,663	1,134	534	585	14.7							
1963	4,070	1,751	1,231	535	553	14.0							
1964	3,786	1,697	1,117	491	482	13.3							
1965	3,366	1,628	983	404	351	11.8							
1966	2,875	1,573	779	287	239	10.4							
1967[2]	2,975	1,634	893	271	177	8.7	2.3	1,229	394	836	438	945	396
1968	2,817	1,594	810	256	156	8.4	4.5	1,070	334	736	431	909	407
1969	2,832	1,629	827	242	133	7.8	4.4	1,017	339	678	436	965	413
1970	4,093	2,139	1,290	428	235	8.6	4.9	1,811	675	1,137	550	1,228	504
1971	5,016	2,245	1,585	668	519	11.3	6.3	2,323	735	1,588	590	1,472	630
1972	4,882	2,242	1,472	601	566	12.0	6.2	2,108	582	1,526	641	1,456	677
1973	4,365	2,224	1,314	483	343	10.0	5.2	1,694	472	1,221	683	1,340	649
1974	5,156	2,604	1,597	574	381	9.8	5.2	2,242	746	1,495	768	1,463	681
1975	7,929	2,940	2,484	1,303	1,203	14.2	8.4	4,386	1,671	2,714	827	1,892	823
1976	7,406	2,844	2,196	1,018	1,348	15.8	8.2	3,679	1,050	2,628	903	1,928	895
1977	6,991	2,919	2,132	913	1,028	14.3	7.0	3,156	865	2,300	909	1,963	953
1978	6,202	2,865	1,923	766	648	11.9	5.9	2,585	712	1,873	874	1,857	885
1979	6,137	2,950	1,946	706	535	10.8	5.4	2,635	851	1,784	880	1,806	817
1980	7,637	3,295	2,470	1,052	820	11.9	6.5	3,947	1,488	2,459	891	1,927	872
1981	8,273	3,449	2,539	1,122	1,162	13.7	6.9	4,267	1,430	2,837	923	2,102	981
1982	10,678	3,883	3,311	1,708	1,776	15.6	8.7	6,268	2,127	4,141	840	2,384	1,185
1983	10,717	3,570	2,937	1,652	2,559	20.0	10.1	6,258	1,780	4,478	830	2,412	1,216
1984	8,539	3,350	2,451	1,104	1,634	18.2	7.9	4,421	1,171	3,250	823	2,184	1,110
1985	8,312	3,498	2,509	1,025	1,280	15.6	6.8	4,139	1,157	2,982	877	2,256	1,039
1986	8,237	3,448	2,557	1,045	1,187	15.0	6.9	4,033	1,090	2,943	1,015	2,160	1,029
1987	7,425	3,246	2,196	943	1,040	14.5	6.5	3,566	943	2,623	965	1,974	920
1988	6,701	3,084	2,007	801	809	13.5	5.9	3,092	851	2,241	983	1,809	816
1989	6,528	3,174	1,978	730	645	11.9	4.8	2,983	850	2,133	1,024	1,843	677
1990	7,047	3,265	2,257	822	703	12.0	5.3	3,387	1,028	2,359	1,041	1,930	688
1991	8,628	3,480	2,791	1,246	1,111	13.7	6.8	4,694	1,292	3,402	1,004	2,139	792
1992	9,613	3,376	2,830	1,453	1,954	17.7	8.7	5,389	1,260	4,129	1,002	2,285	937
1993	8,940	3,262	2,584	1,297	1,798	18.0	8.3	4,848	1,115	3,733	976	2,198	919
1994	7,996	2,728	2,408	1,237	1,623	18.8	9.2	3,815	977	2,838	791	2,786	604
1995	7,404	2,700	2,342	1,085	1,278	16.6	8.3	3,476	1,030	2,446	824	2,525	579
1996	7,236	2,633	2,287	1,053	1,262	16.7	8.3	3,370	1,021	2,349	774	2,512	560
1997	6,739	2,538	2,138	995	1,067	15.8	8.0	3,037	931	2,106	795	2,338	569
1998	6,210	2,622	1,950	763	875	14.5	6.7	2,822	866	1,957	734	2,132	520
1997: Jan	7,126	2,712	2,251	989	1,161	15.9	7.8	3,210	952	2,258	849	2,485	600
Feb	7,154	2,561	2,367	1,031	1,106	15.8	8.2	3,174	963	2,211	793	2,554	621
Mar	6,996	2,579	2,324	994	1,081	15.5	8.0	3,133	987	2,146	794	2,471	614
Apr	6,842	2,464	2,198	1,060	1,078	15.5	8.3	3,103	985	2,118	789	2,444	574
May	6,678	2,519	2,072	1,080	1,050	15.3	8.0	2,996	937	2,059	810	2,385	584
June	6,824	2,568	2,135	1,005	1,085	15.6	7.9	3,109	937	2,172	818	2,346	495
July	6,633	2,426	2,076	1,057	1,083	16.5	8.2	2,915	868	2,047	794	2,294	573
Aug	6,630	2,554	2,113	935	1,083	16.0	7.8	2,984	860	2,124	892	2,174	557
Sept	6,654	2,492	2,089	999	1,064	15.8	8.1	2,968	863	2,105	842	2,247	571
Oct	6,445	2,500	1,955	927	1,045	16.2	7.8	2,917	983	1,934	737	2,235	546
Nov	6,289	2,496	2,013	904	940	15.4	7.6	2,865	810	2,055	680	2,213	549
Dec	6,448	2,558	1,962	921	1,005	16.0	7.4	2,966	955	2,011	715	2,193	549
1998: Jan	6,345	2,520	1,976	802	1,009	15.5	7.3	2,826	862	1,964	792	2,215	524
Feb	6,363	2,598	1,931	849	955	15.4	7.1	2,827	836	1,991	773	2,206	538
Mar	6,432	2,792	1,971	830	898	14.6	6.9	2,950	966	1,984	745	2,187	544
Apr	5,952	2,626	1,929	605	856	14.5	6.6	2,706	723	1,983	641	2,115	518
May	6,039	2,608	1,967	671	838	14.7	6.1	2,822	816	2,006	749	2,081	505
June	6,245	2,553	2,022	833	808	14.1	6.7	2,832	851	1,981	754	2,112	517
July	6,231	2,626	1,975	783	823	14.3	6.7	2,865	931	1,934	770	2,072	474
Aug	6,217	2,652	1,956	810	834	13.7	6.8	2,834	937	1,897	734	2,124	507
Sept	6,263	2,638	1,968	732	904	14.3	6.6	2,865	909	1,956	727	2,161	501
Oct	6,258	2,754	1,896	732	866	14.1	5.9	2,813	857	1,956	730	2,142	577
Nov	6,080	2,546	1,983	752	859	14.4	6.7	2,758	850	1,908	677	2,130	534
Dec	6,021	2,614	1,839	754	824	14.1	6.7	2,754	841	1,913	709	2,031	504

[1] Because of independent seasonal adjustment of the various series, detail will not add to totals.
[2] Data for 1967 by reason for unemployment are not equal to total unemployment.
[3] Beginning January 1994, job losers and persons who completed temporary jobs.

Note.—Data relate to persons 16 years of age and over.
See footnote 5 and Note, Table B–35.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–45.—*Unemployment insurance programs, selected data, 1967–98*

Year or month	All programs			State programs					
								Benefits paid	
	Covered employment[1]	Insured unemployment (weekly average)[2,3]	Total benefits paid (millions of dollars)[2,4]	Insured unemployment[3]	Initial claims	Exhaustions[5]	Insured unemployment as percent of covered employment	Total (millions of dollars)[4]	Average weekly check (dollars)[6]
	Thousands			Weekly average; thousands					
1967	56,342	1,270	2,222	1,205	226	17	2.5	2,092	41.25
1968	57,977	1,187	2,191	1,111	201	16	2.2	2,032	43.43
1969	59,999	1,177	2,299	1,101	200	16	2.1	2,128	46.17
1970	59,526	2,070	4,209	1,805	296	25	3.4	3,849	50.34
1971	59,375	2,608	6,154	2,150	295	39	4.1	4,957	54.02
1972	66,458	2,192	5,491	1,848	261	35	3.5	4,471	56.76
1973	69,897	1,793	4,517	1,632	247	29	2.7	4,008	59.00
1974	72,451	2,558	6,934	2,262	363	37	3.5	5,975	64.25
1975	71,037	4,937	16,802	3,886	478	81	6.0	11,755	70.23
1976	73,459	3,846	12,345	2,991	386	63	4.6	8,975	75.16
1977	76,419	3,308	10,999	2,655	375	55	3.9	8,357	78.79
1978	88,804	2,645	9,007	2,359	346	39	3.3	7,717	83.67
1979	92,062	2,592	9,401	2,434	383	39	2.9	8,613	89.67
1980	92,659	3,837	16,175	3,350	488	59	3.9	13,761	98.95
1981	93,300	3,410	15,287	3,047	460	57	3.5	13,262	106.70
1982	91,628	4,592	24,491	4,059	583	80	4.6	20,649	119.34
1983	91,898	3,774	21,000	3,395	438	80	3.9	17,787	123.59
1984	96,474	2,560	13,838	2,475	377	50	2.8	12,610	123.47
1985	99,186	2,699	15,283	2,617	397	49	2.9	14,131	128.14
1986	101,099	2,739	16,670	2,643	378	52	2.8	15,329	135.65
1987	103,936	2,369	14,929	2,300	328	46	2.4	13,607	140.55
1988	107,156	2,135	13,694	2,081	310	38	2.0	12,565	144.97
1989	109,929	2,205	14,948	2,158	330	37	2.1	13,760	151.73
1990	111,500	2,575	18,721	2,522	388	45	2.4	17,356	161.56
1991	109,606	3,406	26,717	3,342	447	67	3.2	24,526	169.88
1992	110,167	3,348	[8]26,460	3,245	408	74	3.1	23,869	173.64
1993	112,146	2,845	[8]22,950	2,751	341	62	2.6	20,539	175.62
1994	115,255	2,746	22,844	2,670	340	57	2.5	20,401	182.16
1995	118,068	2,639	22,386	2,572	357	51	2.3	20,125	187.29
1996	120,567	2,656	22,915	2,595	356	53	2.3	20,645	189.51
1997	[7]123,812	2,370	20,715	2,323	323	46	2.0	18,587	192.76
1998[p]	.....	2,259	19,653	2,220	320	44	.....	18,044	200.00
1997: Jan	.....	3,041	2,299.7	2,456	334	53	2.1	2,242.2	194.44
Feb	.....	3,040	2,073.1	2,375	311	51	2.1	2,020.3	196.37
Mar	.....	2,937	2,111.3	2,297	312	52	2.0	2,058.3	196.75
Apr	.....	2,509	1,886.0	2,276	332	55	2.0	1,837.5	194.50
May	.....	2,074	1,534.6	2,262	325	47	2.0	1,496.0	193.43
June	.....	2,218	1,495.6	2,305	339	47	2.0	1,457.9	191.22
July	.....	2,239	1,651.6	2,302	318	50	2.0	1,610.0	188.09
Aug	.....	2,117	1,425.[r]	2,300	325	44	2.0	1,386.0	184.69
Sept	.....	1,980	1,417.2	2,231	310	43	1.9	1,370.7	191.36
Oct	.....	1,757	1,330.5	2,230	310	40	1.9	1,281.0	191.95
Nov	.....	2,018	1,281.8	2,247	319	41	1.9	1,234.2	191.97
Dec	.....	2,439	1,841.5	2,283	315	47	2.0	1,784.6	194.15
1998: Jan	.....	2,759	2,004.6	2,251	318	48	1.9	1,958.7	198.01
Feb	.....	2,779	1,936.0	2,187	309	46	1.9	1,893.1	200.57
Mar	.....	2,794	2,123.7	2,165	309	47	1.8	2,076.5	200.67
Apr	.....	2,253	1,740.8	2,127	309	47	1.8	1,696.5	198.57
May	.....	1,995	1,427.5	2,103	316	44	1.8	1,388.9	198.30
June	.....	2,075	1,518.1	2,238	355	43	1.9	1,478.2	197.12
July	.....	2,210	1,724.4	2,384	326	44	2.0	1,690.9	199.83
Aug	.....	2,226	1,566.9	2,238	303	43	1.9	1,531.7	197.99
Sept	.....	1,846	1,412.5	2,171	299	39	1.8	1,377.3	200.41
Oct	.....	1,700	1,276.1	2,192	311	37	1.8	1,241.8	201.87
Nov	.....	2,065	1,436.7	2,241	320	41	1.9	1,398.8	202.52
Dec[p]	.....	2,319	1,857.0	2,266	328	45	1.9	1,813.7	204.28

** Monthly data are seasonally adjusted.

[1] Includes persons under the State, UCFE (Federal employee, effective January 1955), RRB (Railroad Retirement Board) programs, and UCX (unemployment compensation for ex-servicemembers, effective October 1958) programs.

[2] Includes State, UCFE, RR, UCX, UCV (unemployment compensation for veterans, October 1952–January 1960), and SRA (Servicemen's Readjustment Act, September 1944–September 1951) programs. Also includes Federal and State extended benefit programs. Does not include FSB (Federal supplemental benefits), SUA (special unemployment assistance), Federal Supplemental Compensation, and Emergency Unemployment Compensation programs, except as noted in footnote 8.

[3] Covered workers who have completed at least 1 week of unemployment.

[4] Annual data are net amounts and monthly data are gross amounts.

[5] Individuals receiving final payments in benefit year.

[6] For total unemployment only.

[7] Latest data available for all programs combined. Workers covered by State programs account for about 57 percent of wage and salary earners.

[8] Including Emergency Unemployment Compensation and Federal Supplemental Compensation, total benefits paid for 1992 and 1993 would be approximately (in millions of dollars): for 1992, 39,990 and for 1993, 34,876.

Note.—Insured unemployment and initial claims programs include Puerto Rican sugar cane workers beginning 1963.

Source: Department of Labor, Employment and Training Administration.

TABLE B–46.—*Employees on nonagricultural payrolls, by major industry, 1950–98*

[Thousands of persons; monthly data seasonally adjusted]

Year or month	Total	Goods-producing industries					
		Total	Mining	Construction	Manufacturing		
					Total	Durable goods	Nondurable goods
1950	45,197	18,506	901	2,364	15,241	8,066	7,175
1951	47,819	19,959	929	2,637	16,393	9,059	7,334
1952	48,793	20,198	898	2,668	16,632	9,320	7,313
1953	50,202	21,074	866	2,659	17,549	10,080	7,468
1954	48,990	19,751	791	2,646	16,314	9,101	7,213
1955	50,641	20,513	792	2,839	16,882	9,511	7,370
1956	52,369	21,104	822	3,039	17,243	9,802	7,442
1957	52,855	20,967	828	2,962	17,176	9,825	7,351
1958	51,322	19,513	751	2,817	15,945	8,801	7,144
1959	53,270	20,411	732	3,004	16,675	9,342	7,333
1960	54,189	20,434	712	2,926	16,796	9,429	7,367
1961	53,999	19,857	672	2,859	16,326	9,041	7,285
1962	55,549	20,451	650	2,948	16,853	9,450	7,403
1963	56,653	20,640	635	3,010	16,995	9,586	7,410
1964	58,283	21,005	634	3,097	17,274	9,785	7,489
1965	60,763	21,926	632	3,232	18,062	10,374	7,688
1966	63,901	23,158	627	3,317	19,214	11,250	7,963
1967	65,803	23,308	613	3,248	19,447	11,408	8,039
1968	67,897	23,737	606	3,350	19,781	11,594	8,187
1969	70,384	24,361	619	3,575	20,167	11,862	8,304
1970	70,880	23,578	623	3,588	19,367	11,176	8,190
1971	71,211	22,935	609	3,704	18,623	10,604	8,019
1972	73,675	23,668	628	3,889	19,151	11,022	8,129
1973	76,790	24,893	642	4,097	20,154	11,863	8,291
1974	78,265	24,794	697	4,020	20,077	11,897	8,181
1975	76,945	22,600	752	3,525	18,323	10,662	7,661
1976	79,382	23,352	779	3,576	18,997	11,051	7,946
1977	82,471	24,346	813	3,851	19,682	11,570	8,112
1978	86,697	25,585	851	4,229	20,505	12,245	8,259
1979	89,823	26,461	958	4,463	21,040	12,730	8,310
1980	90,406	25,658	1,027	4,346	20,285	12,159	8,127
1981	91,152	25,497	1,139	4,188	20,170	12,082	8,089
1982	89,544	23,812	1,128	3,904	18,780	11,014	7,766
1983	90,152	23,330	952	3,946	18,432	10,707	7,725
1984	94,408	24,718	966	4,380	19,372	11,476	7,896
1985	97,387	24,842	927	4,668	19,248	11,458	7,790
1986	99,344	24,533	777	4,810	18,947	11,195	7,752
1987	101,958	24,674	717	4,958	18,999	11,154	7,845
1988	105,209	25,125	713	5,098	19,314	11,363	7,951
1989	107,884	25,254	692	5,171	19,391	11,394	7,997
1990	109,403	24,905	709	5,120	19,076	11,109	7,968
1991	108,249	23,745	689	4,650	18,406	10,569	7,837
1992	108,601	23,231	635	4,492	18,104	10,277	7,827
1993	110,713	23,352	610	4,668	18,075	10,221	7,854
1994	114,163	23,908	601	4,986	18,321	10,448	7,873
1995	117,191	24,265	581	5,160	18,524	10,683	7,841
1996	119,608	24,493	580	5,418	18,495	10,789	7,706
1997	122,690	24,934	592	5,686	18,657	10,987	7,670
1998 p	125,833	25,256	575	5,965	18,716	11,098	7,618
1997: Jan	121,146	24,716	588	5,571	18,557	10,874	7,683
Feb	121,457	24,793	591	5,629	18,573	10,894	7,679
Mar	121,779	24,852	591	5,654	18,607	10,921	7,686
Apr	122,092	24,856	591	5,652	18,613	10,933	7,680
May	122,325	24,883	593	5,670	18,620	10,941	7,679
June	122,534	24,903	593	5,668	18,642	10,966	7,676
July	122,811	24,923	593	5,682	18,648	10,988	7,660
Aug	122,894	24,972	592	5,699	18,681	11,028	7,653
Sept	123,280	24,993	594	5,713	18,686	11,030	7,656
Oct	123,568	25,032	592	5,722	18,718	11,060	7,658
Nov	123,944	25,099	591	5,750	18,758	11,094	7,664
Dec	124,289	25,193	592	5,810	18,791	11,118	7,673
1998: Jan	124,640	25,297	592	5,881	18,824	11,154	7,670
Feb	124,832	25,314	590	5,902	18,822	11,159	7,663
Mar	124,914	25,276	587	5,860	18,829	11,166	7,663
Apr	125,234	25,339	582	5,930	18,827	11,170	7,657
May	125,562	25,301	579	5,917	18,805	11,156	7,649
June	125,751	25,304	578	5,946	18,780	11,144	7,636
July	125,869	25,135	571	5,970	18,594	10,989	7,605
Aug	126,191	25,253	571	5,989	18,693	11,106	7,587
Sept	126,363	25,241	568	5,981	18,692	11,090	7,602
Oct	126,527	25,209	564	6,012	18,633	11,059	7,574
Nov p	126,778	25,184	560	6,054	18,570	11,010	7,560
Dec p	127,156	25,272	557	6,158	18,557	10,997	7,560

Note.—Data in Tables B–46 and B–47 are based on reports from employing establishments and relate to full- and part-time wage and salary workers in nonagricultural establishments who received pay for any part of the pay period which includes the 12th of the month. Not comparable with labor force data (Tables B–35 through B–44), which include proprietors, self-employed persons, domestic servants,

See next page for continuation of table.

TABLE B–46.—*Employees on nonagricultural payrolls, by major industry, 1950–98*—Continued

[Thousands of persons; monthly data seasonally adjusted]

Year or month	Service-producing industries								
	Total	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
							Total	Federal	State and local
1950	26,691	4,034	2,643	6,743	1,888	5,356	6,026	1,928	4,098
1951	27,860	4,226	2,735	7,007	1,956	5,547	6,389	2,302	4,087
1952	28,595	4,248	2,821	7,184	2,035	5,699	6,609	2,420	4,188
1953	29,128	4,290	2,862	7,385	2,111	5,835	6,645	2,305	4,340
1954	29,239	4,084	2,875	7,360	2,200	5,969	6,751	2,188	4,563
1955	30,128	4,141	2,934	7,601	2,298	6,240	6,914	2,187	4,727
1956	31,264	4,244	3,027	7,831	2,389	6,497	7,278	2,209	5,069
1957	31,889	4,241	3,037	7,848	2,438	6,708	7,616	2,217	5,399
1958	31,811	3,976	2,989	7,761	2,481	6,765	7,839	2,191	5,648
1959	32,857	4,011	3,092	8,035	2,549	7,087	8,083	2,233	5,850
1960	33,755	4,004	3,153	8,238	2,628	7,378	8,353	2,270	6,083
1961	34,142	3,903	3,142	8,195	2,686	7,619	8,594	2,279	6,315
1962	35,098	3,906	3,207	8,359	2,754	7,982	8,890	2,340	6,550
1963	36,013	3,903	3,258	8,520	2,830	8,277	9,225	2,358	6,868
1964	37,278	3,951	3,347	8,812	2,911	8,660	9,596	2,348	7,248
1965	38,839	4,036	3,477	9,239	2,977	9,036	10,074	2,378	7,696
1966	40,743	4,158	3,608	9,637	3,058	9,498	10,784	2,564	8,220
1967	42,495	4,268	3,700	9,906	3,185	10,045	11,391	2,719	8,672
1968	44,158	4,318	3,791	10,308	3,337	10,567	11,839	2,737	9,102
1969	46,023	4,442	3,919	10,785	3,512	11,169	12,195	2,758	9,437
1970	47,302	4,515	4,006	11,034	3,645	11,548	12,554	2,731	9,823
1971	48,276	4,476	4,014	11,338	3,772	11,797	12,881	2,696	10,185
1972	50,007	4,541	4,127	11,822	3,908	12,276	13,334	2,684	10,649
1973	51,897	4,656	4,291	12,315	4,046	12,857	13,732	2,663	11,068
1974	53,471	4,725	4,447	12,539	4,148	13,441	14,170	2,724	11,446
1975	54,345	4,742	4,430	12,630	4,165	13,892	14,686	2,748	11,937
1976	56,030	4,582	4,562	13,193	4,271	14,551	14,871	2,733	12,138
1977	58,125	4,713	4,723	13,792	4,467	15,302	15,127	2,727	12,399
1978	61,113	4,923	4,985	14,556	4,724	16,252	15,672	2,753	12,919
1979	63,363	5,136	5,221	14,972	4,975	17,112	15,947	2,773	13,174
1980	64,748	5,146	5,292	15,018	5,160	17,890	16,241	2,866	13,375
1981	65,655	5,165	5,375	15,171	5,298	18,615	16,031	2,772	13,259
1982	65,732	5,081	5,295	15,158	5,340	19,021	15,837	2,739	13,098
1983	66,821	4,952	5,283	15,587	5,466	19,664	15,869	2,774	13,096
1984	69,690	5,156	5,568	16,512	5,684	20,746	16,024	2,807	13,216
1985	72,544	5,233	5,727	17,315	5,948	21,927	16,394	2,875	13,519
1986	74,811	5,247	5,761	17,880	6,273	22,957	16,693	2,899	13,794
1987	77,284	5,362	5,848	18,422	6,533	24,110	17,010	2,943	14,067
1988	80,084	5,512	6,030	19,023	6,630	25,504	17,386	2,971	14,415
1989	82,630	5,614	6,187	19,475	6,668	26,907	17,779	2,988	14,791
1990	84,497	5,777	6,173	19,601	6,709	27,934	18,304	3,085	15,219
1991	84,504	5,755	6,081	19,284	6,646	28,336	18,402	2,966	15,436
1992	85,370	5,718	5,997	19,356	6,602	29,052	18,645	2,969	15,676
1993	87,361	5,811	5,981	19,773	6,757	30,197	18,841	2,915	15,926
1994	90,256	5,984	6,162	20,507	6,896	31,579	19,128	2,870	16,257
1995	92,925	6,132	6,378	21,187	6,806	33,117	19,305	2,822	16,484
1996	95,115	6,253	6,482	21,597	6,911	34,454	19,419	2,757	16,662
1997	97,756	6,395	6,648	22,011	7,091	36,040	19,570	2,699	16,870
1998[p]	100,577	6,551	6,825	22,474	7,341	37,525	19,862	2,684	17,178
1997: Jan	96,430	6,334	6,565	21,833	7,002	35,246	19,450	2,720	16,730
Feb	96,664	6,356	6,587	21,831	7,016	35,411	19,463	2,715	16,748
Mar	96,927	6,379	6,605	21,897	7,030	35,550	19,466	2,709	16,757
Apr	97,236	6,393	6,615	21,937	7,053	35,734	19,504	2,707	16,797
May	97,442	6,399	6,626	21,952	7,064	35,887	19,514	2,704	16,810
June	97,631	6,405	6,632	21,987	7,072	35,992	19,543	2,697	16,846
July	97,888	6,411	6,655	21,987	7,095	36,148	19,592	2,691	16,901
Aug	97,922	6,264	6,671	22,043	7,110	36,225	19,609	2,691	16,918
Sept	98,287	6,435	6,679	22,078	7,125	36,363	19,607	2,684	16,923
Oct	98,536	6,453	6,697	22,105	7,151	36,484	19,646	2,690	16,956
Nov	98,845	6,456	6,711	22,206	7,172	36,638	19,662	2,689	16,973
Dec	99,096	6,451	6,731	22,245	7,194	36,795	19,680	2,688	16,992
1998: Jan	99,343	6,473	6,759	22,280	7,213	36,932	19,686	2,670	17,016
Feb	99,518	6,494	6,769	22,283	7,232	37,020	19,720	2,676	17,044
Mar	99,638	6,504	6,783	22,259	7,258	37,106	19,728	2,671	17,057
Apr	99,895	6,513	6,798	22,335	7,289	37,196	19,764	2,674	17,090
May	100,261	6,534	6,815	22,423	7,311	37,350	19,828	2,671	17,157
June	100,447	6,538	6,821	22,448	7,333	37,494	19,813	2,674	17,139
July	100,734	6,550	6,827	22,547	7,370	37,614	19,826	2,672	17,154
Aug	100,938	6,570	6,838	22,545	7,372	37,691	19,922	2,683	17,239
Sept	101,122	6,579	6,862	22,592	7,393	37,768	19,928	2,687	17,241
Oct	101,318	6,595	6,864	22,589	7,417	37,905	19,948	2,713	17,235
Nov[r]	101,594	6,609	6,875	22,654	7,439	38,041	19,976	2,712	17,264
Dec[p]	101,884	6,641	6,887	22,707	7,467	38,152	20,035	2,691	17,344

Note (cont'd).—which count persons as employed when they are not at work because of industrial disputes, bad weather, etc., even if they are not paid for the time off; and which are based on a sample of the working-age population. For description and details of the various establishment data, see "Employment and Earnings."

Source: Department of Labor, Bureau of Labor Statistics.

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TABLE B–47.—*Hours and earnings in private nonagricultural industries, 1959–98*[1]

[Monthly data seasonally adjusted, except as noted]

Year or month	Average weekly hours			Average hourly earnings			Average weekly earnings, total private			
	Total private	Manufacturing		Total private		Manufacturing (current dollars)	Level		Percent change from year earlier[3]	
		Total	Overtime	Current dollars	1982 dollars[2]		Current dollars	1982 dollars[2]	Current dollars	1982 dollars[2]
1959	39.0	40.3	2.7	$2.02	$6.69	$2.19	$78.78	$260.86	4.9	4.2
1960	38.6	39.7	2.5	2.09	6.79	2.26	80.67	261.92	2.4	.4
1961	38.6	39.8	2.4	2.14	6.88	2.32	82.60	265.59	2.4	1.4
1962	38.7	40.4	2.8	2.22	7.07	2.39	85.91	273.60	4.0	3.0
1963	38.8	40.5	2.8	2.28	7.17	2.45	88.46	278.18	3.0	1.7
1964	38.7	40.7	3.1	2.36	7.33	2.53	91.33	283.63	3.2	2.0
1965	38.8	41.2	3.6	2.46	7.52	2.61	95.45	291.30	4.5	2.9
1966	38.6	41.4	3.9	2.56	7.62	2.71	98.82	294.11	3.5	.8
1967	38.0	40.6	3.4	2.68	7.72	2.82	101.84	293.49	3.1	–.2
1968	37.8	40.7	3.6	2.85	7.89	3.01	107.73	298.42	5.8	1.7
1969	37.7	40.6	3.6	3.04	7.93	3.19	114.61	300.81	6.4	.8
1970	37.1	39.8	3.0	3.23	8.03	3.35	119.83	298.08	4.6	–.9
1971	36.9	39.9	2.9	3.45	8.21	3.57	127.31	303.12	6.2	1.7
1972	37.0	40.5	3.5	3.70	8.53	3.82	136.90	315.44	7.5	4.1
1973	36.9	40.7	3.8	3.94	8.55	4.09	145.39	315.38	6.2	–.0
1974	36.5	40.0	3.3	4.24	8.28	4.43	154.76	302.27	6.4	–4.2
1975	36.1	39.5	2.6	4.53	8.12	4.83	163.53	293.06	5.7	–3.0
1976	36.1	40.1	3.1	4.86	8.24	5.22	175.45	297.37	7.3	1.5
1977	36.0	40.3	3.5	5.25	8.36	5.68	189.00	300.96	7.7	1.2
1978	35.8	40.4	3.6	5.69	8.40	6.17	203.70	300.89	7.8	–.0
1979	35.7	40.2	3.3	6.16	8.17	6.70	219.91	291.66	8.0	–3.1
1980	35.3	39.7	2.8	6.66	7.78	7.27	235.10	274.65	6.9	–5.8
1981	35.2	39.8	2.8	7.25	7.69	7.99	255.20	270.63	8.5	–1.5
1982	34.8	38.9	2.3	7.68	7.68	8.49	267.26	267.26	4.7	–1.2
1983	35.0	40.1	3.0	8.02	7.79	8.83	280.70	272.52	5.0	2.0
1984	35.2	40.7	3.4	8.32	7.80	9.19	292.86	274.73	4.3	.8
1985	34.9	40.5	3.3	8.57	7.77	9.54	299.09	271.16	2.1	–1.3
1986	34.8	40.7	3.4	8.76	7.81	9.73	304.85	271.94	1.9	.3
1987	34.8	41.0	3.7	8.98	7.73	9.91	312.50	269.16	2.5	–1.0
1988	34.7	41.1	3.9	9.28	7.69	10.19	322.02	266.79	3.0	–.9
1989	34.6	41.0	3.8	9.66	7.64	10.48	334.24	264.22	3.8	–1.0
1990	34.5	40.8	3.6	10.01	7.52	10.83	345.35	259.47	3.3	–1.8
1991	34.3	40.7	3.6	10.32	7.45	11.18	353.98	255.40	2.5	–1.6
1992	34.4	41.0	3.8	10.57	7.41	11.46	363.61	254.99	2.7	–.2
1993	34.5	41.4	4.1	10.83	7.39	11.74	373.64	254.87	2.8	–.0
1994	34.7	42.0	4.7	11.12	7.40	12.07	385.86	256.73	3.3	.7
1995	34.5	41.6	4.4	11.43	7.39	12.37	394.34	255.07	2.2	–.6
1996	34.4	41.6	4.5	11.82	7.43	12.77	406.61	255.73	3.1	.3
1997	34.6	42.0	4.8	12.28	7.55	13.17	424.89	261.31	4.5	2.2
1998[p]	34.6	41.7	4.6	12.77	7.75	13.49	441.84	268.11	4.0	2.6
1997: Jan	34.5	41.7	4.7	12.07	7.47	13.01	416.42	257.85	5.1	2.1
Feb	34.6	41.9	4.8	12.10	7.48	13.02	418.66	258.75	5.2	2.2
Mar	34.7	42.1	4.9	12.14	7.50	13.07	421.26	260.20	5.5	2.8
Apr	34.6	42.1	4.9	12.17	7.51	13.07	421.08	258.93	4.7	2.2
May	34.7	42.0	4.9	12.21	7.53	13.10	423.69	261.38	4.5	2.4
June	34.5	41.9	4.7	12.24	7.54	13.11	422.28	260.18	3.7	1.5
July	34.5	41.9	4.8	12.27	7.55	13.13	423.32	260.50	4.4	2.2
Aug	34.7	41.9	4.8	12.34	7.58	13.20	428.20	262.86	4.5	2.3
Sept	34.6	41.9	4.7	12.37	7.58	13.22	428.00	262.09	3.4	1.3
Oct	34.6	42.0	4.8	12.43	7.60	13.30	430.08	262.89	4.7	2.7
Nov	34.7	42.1	4.9	12.47	7.62	13.34	432.71	264.33	5.2	3.5
Dec	34.7	42.2	4.9	12.50	7.63	13.37	433.75	264.80	3.5	2.0
1998: Jan	34.8	42.1	4.9	12.54	7.66	13.38	436.39	266.42	4.9	3.5
Feb	34.7	42.0	4.8	12.59	7.69	13.42	436.87	266.71	4.4	3.3
Mar	34.6	41.8	4.8	12.63	7.72	13.46	437.00	266.95	3.8	2.7
Apr	34.5	41.4	4.5	12.70	7.74	13.44	438.15	267.00	3.6	2.3
May	34.7	41.8	4.6	12.73	7.73	13.47	441.73	268.37	4.6	3.0
June	34.6	41.8	4.6	12.76	7.75	13.47	441.50	268.06	3.3	1.8
July	34.6	41.7	4.6	12.79	7.75	13.42	442.53	268.20	4.0	2.5
Aug	34.6	41.7	4.6	12.85	7.78	13.52	444.61	269.30	4.6	3.1
Sept	34.4	41.6	4.5	12.87	7.79	13.57	442.73	268.00	2.5	1.3
Oct	34.6	41.7	4.5	12.90	7.75	13.57	446.34	269.37	3.5	2.2
Nov[p]	34.5	41.6	4.5	12.93	7.79	13.58	446.09	268.89	3.4	2.0
Dec[p]	34.6	41.8	4.5	12.98	7.81	13.58	449.11	270.22	3.4	1.8

[1] For production or nonsupervisory workers; total includes private industry groups shown in Table B–46.
[2] Current dollars divided by the consumer price index for urban wage earners and clerical workers on a 1982=100 base.
[3] Percent changes are based on data that are not seasonally adjusted.

Note.—See Note, Table B–46.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–48.—*Employment cost index, private industry, 1980–98*

Year and month	Total private			Goods-producing			Service-producing			Manufacturing			Nonmanufacturing		
	Total compensation	Wages and salaries	Benefits [1]	Total compensation	Wages and salaries	Benefits [1]	Total compensation	Wages and salaries	Benefits [1]	Total compensation	Wages and salaries	Benefits [1]	Total compensation	Wages and salaries	Benefits [1]
Index, June 1989=100; not seasonally adjusted															
December:															
1980	64.8	67.1	59.4	66.7	69.7	60.5	63.3	65.3	58.4	66.0	68.9	59.9	64.2	66.2	59.1
1981	71.2	73.0	66.6	73.3	75.7	68.2	69.5	71.1	65.1	72.5	74.9	67.5	70.4	72.1	66.1
1982	75.8	77.6	71.4	77.8	80.0	73.2	74.1	75.9	69.6	76.9	79.1	72.4	75.1	76.8	70.6
1983	80.1	81.4	76.7	81.6	83.2	78.3	78.9	80.2	75.2	80.8	82.5	77.5	79.6	81.0	76.2
1984	84.0	84.8	81.7	85.4	86.4	83.2	82.9	83.7	80.4	85.0	86.1	82.7	83.4	84.2	81.1
1985	87.3	88.3	84.6	88.2	89.4	85.7	86.6	87.7	83.6	87.8	89.2	85.0	87.0	88.0	84.4
1986	90.1	91.1	87.5	91.0	92.3	88.3	89.3	90.3	86.8	90.7	92.1	87.5	89.7	90.6	87.5
1987	93.1	94.1	90.5	93.8	95.2	90.9	92.6	93.4	90.2	93.4	95.2	89.8	92.9	93.7	91.0
1988	97.6	98.0	96.7	97.9	98.2	97.3	97.3	97.8	96.1	97.6	98.1	96.6	97.5	97.8	96.8
1989	102.3	102.0	102.6	102.1	102.0	102.6	102.3	102.2	102.6	102.0	101.9	102.3	102.3	102.2	102.8
1990	107.0	106.1	109.4	107.0	105.8	109.9	107.0	106.3	109.0	107.2	106.2	109.5	106.9	106.1	109.3
1991	111.7	110.0	116.2	111.9	109.7	116.7	111.6	110.2	115.7	112.2	110.3	116.1	111.5	109.8	116.2
1992	115.6	112.9	122.2	116.1	112.8	123.4	115.2	113.0	121.2	116.5	113.7	122.6	115.1	112.6	122.0
1993	119.8	116.4	128.3	120.6	116.1	130.3	119.3	116.6	126.7	121.3	117.3	130.0	119.0	116.0	127.4
1994	123.5	119.7	133.0	124.3	119.6	134.8	122.8	119.7	131.5	125.1	120.8	134.3	122.6	119.1	132.3
1995	126.7	123.1	135.9	127.3	122.9	137.1	126.2	123.2	134.7	128.3	124.3	136.7	125.9	122.5	135.3
1996	130.6	127.3	138.6	130.9	126.8	139.7	130.2	127.5	137.4	132.1	128.4	139.8	129.8	126.8	137.9
1997: Mar	131.7	128.6	139.4	131.4	127.5	139.9	131.6	129.0	138.5	132.6	129.1	139.9	131.1	128.2	138.9
June	132.8	129.7	140.1	132.7	128.9	140.9	132.5	130.1	139.2	133.8	130.3	141.0	132.1	129.3	139.5
Sept	133.9	131.0	140.8	133.6	129.9	141.5	133.8	131.5	139.8	134.6	131.3	141.4	133.3	130.7	140.2
Dec	135.1	132.3	141.8	134.1	130.6	141.5	135.3	133.1	141.4	135.3	132.2	141.7	134.7	132.1	141.5
1998: Mar	136.3	133.7	142.6	135.1	132.0	141.5	136.7	134.4	142.7	136.4	133.7	141.7	136.0	133.4	142.7
June	137.5	134.9	143.7	136.2	133.2	142.5	137.8	135.6	143.8	137.2	134.6	142.4	137.2	134.7	143.9
Sept	139.0	136.6	144.5	137.1	134.3	143.0	139.6	137.6	144.9	138.2	136.0	142.6	138.9	136.5	145.0
Index, June 1989=100; seasonally adjusted															
1997: Mar	131.4	128.5	138.8	131.5	127.5	139.8	131.4	128.9	138.3	132.5	129.1	139.7	131.0	128.2	138.7
June	132.6	129.7	139.7	132.7	128.9	140.7	132.5	130.1	139.1	133.6	130.3	140.8	132.1	129.3	139.5
Sept	133.7	131.0	140.4	133.7	129.9	141.5	133.7	131.5	139.8	134.6	131.3	141.5	133.2	130.6	140.2
Dec	135.1	132.5	141.7	134.2	130.6	141.8	135.5	133.3	141.7	135.3	132.2	142.0	134.9	132.3	141.7
1998: Mar	136.0	133.6	142.1	135.0	132.0	141.4	136.5	134.3	142.5	136.3	133.7	141.5	135.9	133.4	142.5
June	137.2	134.9	143.2	136.2	133.2	142.3	137.7	135.6	143.7	137.0	134.6	142.2	137.2	134.7	143.9
Sept	138.7	136.6	144.2	137.1	134.3	143.0	139.5	137.6	144.9	138.2	136.0	142.7	138.8	136.3	145.0
Percent change from 12 months earlier, not seasonally adjusted															
December:															
1980	9.6	9.1	11.7	9.9	9.4	10.8	9.7	8.8	12.5	9.8	9.4	10.5	9.7	8.9	12.6
1981	9.9	8.8	12.1	9.9	8.6	12.7	9.8	8.9	11.5	9.8	8.7	12.7	9.7	8.9	11.8
1982	6.5	6.3	7.2	6.1	5.7	7.3	6.6	6.8	6.9	6.1	5.6	7.3	6.7	6.5	6.8
1983	5.7	4.9	7.4	4.9	4.0	7.0	6.5	5.7	8.0	5.1	4.3	7.0	6.0	5.5	7.9
1984	4.9	4.2	6.5	4.7	3.8	6.3	5.1	4.4	6.9	5.2	4.4	6.7	4.8	4.0	6.4
1985	3.9	4.1	3.5	3.3	3.5	3.0	4.5	4.8	4.0	3.3	3.6	2.8	4.3	4.5	4.1
1986	3.2	3.2	3.4	3.2	3.2	3.0	3.1	3.0	3.8	3.3	3.3	2.9	3.1	3.0	3.7
1987	3.3	3.3	3.4	3.1	3.1	2.9	3.7	3.4	3.9	3.0	3.4	2.6	3.6	3.4	4.0
1988	4.8	4.1	6.9	4.4	3.2	7.0	5.1	4.7	6.5	4.5	3.0	7.6	5.0	4.4	6.4
1989	4.8	4.1	6.1	4.3	3.9	5.4	5.1	4.5	6.8	4.5	3.9	5.9	4.9	4.5	6.2
1990	4.6	4.0	6.6	4.8	3.7	7.1	4.6	4.0	6.2	5.1	4.2	7.0	4.5	3.8	6.3
1991	4.4	3.7	6.2	4.6	3.7	6.2	4.3	3.7	6.1	4.7	3.9	6.0	4.3	3.5	6.3
1992	3.5	2.6	5.2	3.8	2.8	5.7	3.2	2.5	4.8	3.8	3.1	5.6	3.2	2.6	5.0
1993	3.6	3.1	5.0	3.9	2.9	5.6	3.6	3.2	4.5	4.1	3.2	6.0	3.4	3.0	4.4
1994	3.1	2.8	3.7	3.1	3.0	3.5	2.9	2.7	3.8	3.1	3.0	3.3	3.0	2.7	3.8
1995	2.6	2.8	2.2	2.4	2.8	1.7	2.8	2.9	2.4	2.6	2.9	1.8	2.7	2.9	2.3
1996	3.1	3.4	2.0	2.8	3.2	1.9	3.2	3.5	2.0	3.0	3.3	2.3	3.1	3.5	1.9
1997: Mar	3.0	3.4	2.0	2.5	2.9	1.6	3.1	3.4	2.2	2.6	3.0	1.7	3.1	3.5	2.1
June	2.9	3.3	2.0	2.6	3.0	1.7	3.0	3.4	2.2	2.6	3.0	1.8	3.0	3.4	2.0
Sept	3.2	3.6	2.0	2.7	3.0	1.9	3.3	3.8	1.9	2.5	2.8	1.9	3.3	3.8	2.0
Dec	3.4	3.9	2.3	2.4	3.0	1.3	3.9	4.4	2.9	2.4	3.0	1.4	3.8	4.2	2.6
1998: Mar	3.5	4.0	2.3	2.8	3.5	1.1	3.9	4.2	3.0	2.9	3.6	1.3	3.7	4.1	2.7
June	3.5	4.0	2.6	2.6	3.3	1.1	4.0	4.2	3.3	2.5	3.3	1.0	3.9	4.2	3.2
Sept	3.8	4.3	2.6	2.6	3.4	1.3	4.3	4.6	3.6	2.7	3.6	.8	4.2	4.4	3.4
Percent change from 3 months earlier, seasonally adjusted															
1997: Mar	0.6	0.9	0.1	0.3	0.6	–0.1	0.8	0.9	0.4	0.3	0.5	–0.3	0.8	0.9	0.4
June	.9	.9	.6	.9	1.1	.6	.8	.9	.6	.8	.9	.8	.8	.9	.6
Sept	.8	1.0	.5	.8	.6	.6	.9	1.1	.5	.7	.8	.5	.8	1.0	.5
Dec	1.0	1.1	.9	.4	.5	.2	1.3	1.4	1.4	.5	.7	.4	1.3	1.3	1.1
1998: Mar	.7	.8	.3	.6	1.1	–.3	.7	.8	.6	.7	1.1	–.4	.7	.8	.6
June	.9	1.0	.8	.9	.9	.6	.9	1.0	.8	.5	.7	.5	1.0	1.0	1.0
Sept	1.1	1.3	.7	.7	.8	.5	1.3	1.5	.8	.9	1.0	.4	1.2	1.2	.8

[1] Employer costs for employee benefits.

Note.—The employment cost index is a measure of the change in the cost of labor, free from the influence of employment shifts among occupations and industries.

Data exclude farm and household workers.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–49.—*Productivity and related data, business sector, 1959–98*

[Index numbers, 1992=100; quarterly data seasonally adjusted]

Year or quarter	Output per hour of all persons		Output[1]		Hours of all persons[2]		Compensation per hour[3]		Real compensation per hour[4]		Unit labor costs		Implicit price deflator[5]	
	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector
1959	50.5	54.2	33.7	33.5	66.7	61.7	13.1	13.7	63.1	66.0	25.9	25.3	25.6	25.0
1960	51.4	54.8	34.3	34.0	66.7	62.0	13.7	14.3	64.7	67.8	26.6	26.1	25.8	25.3
1961	53.2	56.6	34.9	34.7	65.6	61.3	14.2	14.8	66.6	69.4	26.7	26.1	26.1	25.6
1962	55.7	59.2	37.2	37.0	66.8	62.6	14.8	15.4	68.9	71.5	26.6	26.0	26.3	25.8
1963	57.9	61.2	38.9	38.7	67.2	63.3	15.4	15.9	70.6	73.0	26.6	26.0	26.5	26.0
1964	60.6	63.8	41.4	41.3	68.3	64.8	16.2	16.7	73.3	75.4	26.7	26.1	26.8	26.3
1965	62.7	65.8	44.2	44.2	70.6	67.3	16.8	17.2	74.8	76.7	26.8	26.2	27.2	26.7
1966	65.2	68.0	47.2	47.4	72.5	69.7	17.9	18.2	77.6	78.9	27.5	26.8	27.9	27.3
1967	66.6	69.2	48.1	48.2	72.3	69.7	18.9	19.3	79.5	81.0	28.4	27.8	28.7	28.2
1968	68.9	71.6	50.5	50.7	73.3	70.9	20.5	20.8	82.5	83.8	29.7	29.0	29.8	29.3
1969	69.2	71.7	52.0	52.3	75.2	72.9	21.9	22.2	83.8	84.9	31.7	31.0	31.1	30.5
1970	70.6	72.7	52.0	52.1	73.6	71.8	23.6	23.8	85.4	86.1	33.5	32.8	32.4	31.9
1971	73.6	75.7	54.0	54.1	73.3	71.5	25.1	25.4	87.1	87.9	34.2	33.5	33.9	33.3
1972	76.0	78.3	57.6	57.8	75.7	73.9	26.7	27.0	89.6	90.6	35.1	34.5	35.0	34.3
1973	78.4	80.7	61.6	62.0	78.5	76.9	29.0	29.2	91.6	92.3	37.0	36.2	36.8	35.5
1974	77.1	79.4	60.6	61.1	78.6	76.9	31.8	32.1	90.6	91.3	41.3	40.4	40.3	39.1
1975	79.8	81.6	60.0	60.0	75.2	73.6	35.1	35.3	91.5	92.2	44.0	43.3	44.2	43.2
1976	82.5	84.5	64.0	64.3	77.5	76.1	38.2	38.4	94.1	94.7	46.2	45.4	46.5	45.6
1977	84.0	85.8	67.6	67.9	80.6	79.1	41.2	41.5	95.3	96.0	49.0	48.3	49.4	48.6
1978	84.9	87.0	71.7	72.3	84.5	83.1	44.9	45.2	96.5	97.3	52.8	52.0	53.0	51.9
1979	84.5	86.3	73.9	74.3	87.4	86.1	49.2	49.5	95.0	95.7	58.2	57.4	57.6	56.4
1980	84.2	86.0	73.0	73.4	86.6	85.4	54.5	54.8	92.8	93.4	64.7	63.8	62.8	61.9
1981	85.8	87.0	74.8	74.8	87.2	86.0	59.6	60.2	92.1	92.8	69.6	69.2	68.7	67.9
1982	85.3	86.3	72.5	72.4	85.0	83.9	64.1	64.6	93.2	93.9	75.1	74.8	72.7	72.2
1983	88.0	89.9	76.1	76.8	86.4	85.4	66.8	67.3	94.0	94.8	75.8	74.9	75.4	74.7
1984	90.2	91.4	82.5	82.8	91.5	90.6	69.7	70.2	94.1	94.8	77.2	76.8	77.7	77.0
1985	91.7	92.3	85.7	85.8	93.5	92.9	73.1	73.4	95.3	95.7	79.7	79.5	80.0	79.6
1986	94.1	94.7	88.5	88.7	94.1	93.6	76.8	77.2	98.4	98.8	81.7	81.5	81.7	81.4
1987	94.0	94.5	91.1	91.3	96.9	96.6	79.8	80.1	98.6	98.9	84.9	84.7	83.8	83.6
1988	94.7	95.3	94.6	95.1	99.9	99.8	83.6	83.7	99.1	99.3	88.3	87.8	86.8	86.4
1989	95.5	95.8	97.8	98.1	102.4	102.4	85.9	86.0	97.2	97.3	90.0	89.7	90.4	90.0
1990	96.1	96.3	98.6	98.8	102.6	102.6	90.8	90.7	97.4	97.3	94.4	94.2	94.1	93.8
1991	96.7	97.0	96.9	97.1	100.2	100.1	95.1	95.1	98.0	98.0	98.3	98.1	97.7	97.6
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	100.1	100.1	102.7	103.0	102.6	102.9	102.5	102.2	99.5	99.3	102.4	102.2	102.5	102.5
1994	100.7	100.6	107.0	107.0	106.2	106.3	104.4	104.2	98.8	98.7	103.7	103.6	104.8	104.9
1995	101.0	101.2	109.9	110.2	108.8	108.9	106.8	106.7	98.4	98.2	105.8	105.4	106.9	107.0
1996	103.7	103.7	114.5	114.8	110.4	110.7	110.7	110.4	99.0	98.7	106.8	106.5	108.6	108.5
1997	105.4	105.1	119.8	119.9	113.6	114.1	114.9	114.5	100.5	100.1	109.0	109.0	110.4	110.6
1993:I	99.9	99.9	101.4	101.6	101.5	101.7	101.6	101.5	99.6	99.5	101.7	101.6	101.7	101.8
II	99.8	99.7	102.1	102.3	102.3	102.6	102.5	102.2	99.7	99.4	102.7	102.5	102.3	102.3
III	99.9	100.0	102.8	103.2	102.9	103.2	102.9	102.5	99.6	99.3	103.0	102.5	102.7	102.6
IV	100.8	100.7	104.6	104.8	103.7	104.1	103.1	102.8	99.1	98.8	102.3	102.1	103.4	103.3
1994:I	100.8	100.7	105.2	105.2	104.4	104.5	104.1	103.9	99.6	99.3	103.3	103.2	103.9	103.8
II	100.8	100.6	106.9	106.9	106.0	106.1	104.1	103.9	98.9	98.7	103.2	103.1	104.4	104.5
III	100.4	100.3	107.3	107.3	106.8	106.9	104.3	104.1	98.2	98.0	103.8	103.7	105.1	105.3
IV	100.7	100.8	108.5	108.6	107.7	107.8	105.1	105.0	98.3	98.2	104.3	104.2	105.8	106.0
1995:I	100.5	100.6	109.0	109.2	108.5	108.5	105.6	105.5	98.2	98.1	105.1	104.8	106.3	106.4
II	100.7	100.9	109.1	109.4	108.3	108.4	106.4	106.2	98.1	97.9	105.7	105.3	106.7	106.9
III	101.0	101.3	110.3	110.7	109.1	109.2	107.2	107.0	98.3	98.2	106.1	105.6	107.1	107.2
IV	101.8	102.0	111.2	111.6	109.2	109.4	108.2	107.9	98.6	98.4	106.2	105.8	107.4	107.4
1996:I	102.9	103.0	112.5	112.8	109.3	109.4	108.8	108.6	98.4	98.3	105.7	105.4	107.9	107.9
II	103.8	103.8	114.2	114.5	110.0	110.3	110.3	110.0	98.9	98.6	106.3	106.0	108.4	108.2
III	103.8	103.8	114.9	115.2	110.7	111.0	111.4	111.0	99.3	98.9	107.3	107.0	108.8	108.6
IV	104.2	104.1	116.4	116.6	111.6	112.0	112.3	112.0	99.3	98.9	107.8	107.5	109.2	109.2
1997:I	104.5	104.2	117.8	117.9	112.7	113.1	113.4	113.1	99.7	99.4	108.5	108.5	109.9	110.0
II	105.0	104.7	119.1	119.2	113.4	113.9	114.1	113.8	100.0	99.7	108.7	108.7	110.3	110.4
III	106.0	105.6	120.6	120.6	113.8	114.2	115.3	114.9	100.5	100.2	108.8	108.8	110.6	110.8
IV	106.2	105.9	121.7	121.8	114.5	115.1	116.8	116.3	101.3	100.9	110.0	109.9	110.8	111.1
1998:I	107.3	106.8	123.7	123.9	115.4	116.0	118.2	117.6	102.4	101.9	110.2	110.2	110.9	111.2
II	107.3	106.8	124.3	124.4	115.8	116.4	119.4	118.8	102.9	102.4	111.3	111.2	111.0	111.3
III	108.1	107.6	125.6	125.7	116.2	116.8	120.5	120.0	103.4	103.0	111.5	111.5	111.1	111.4

[1] Output refers to real gross domestic product in the sector.

[2] Hours at work of all persons engaged in the sector, including hours of proprietors and unpaid family workers. Estimates based primarily on establishment data.

[3] Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Also includes an estimate of wages, salaries, and supplemental payments for the self-employed.

[4] Hourly compensation divided by the consumer price index for all urban consumers.

[5] Current dollar output divided by the output index.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–50.—*Changes in productivity and related data, business sector, 1959–98*

[Percent change from preceding period; quarterly data at seasonally adjusted annual rates]

Year or quarter	Output per hour of all persons		Output[1]		Hours of all persons[2]		Compensation per hour[3]		Real compensation per hour[4]		Unit labor costs		Implicit price deflator[5]	
	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector
1959	4.2	4.2	8.5	9.0	4.1	4.6	4.2	4.0	3.5	3.2	0	-0.2	0.6	1.1
1960	1.7	1.2	1.8	1.6	.1	.5	4.3	4.4	2.6	2.7	2.5	3.2	1.1	1.1
1961	3.5	3.1	1.9	1.9	-1.6	-1.2	4.0	3.4	2.9	2.4	.4	.3	.9	.9
1962	4.7	4.6	6.5	6.9	1.7	2.1	4.5	4.1	3.5	3.0	-.2	-.5	.9	.8
1963	3.9	3.4	4.5	4.5	.6	1.1	3.7	3.5	2.3	2.2	-.2	.1	.7	.8
1964	4.6	4.3	6.4	6.8	1.7	2.4	5.2	4.6	3.8	3.3	.5	.3	1.0	1.2
1965	3.5	3.0	7.0	7.0	3.4	3.9	3.7	3.3	2.1	1.7	.2	.3	1.7	1.5
1966	4.0	3.5	6.7	7.1	2.6	3.6	6.7	5.8	3.7	2.8	2.6	2.3	2.5	2.3
1967	2.2	1.7	1.9	1.7	-.3	-.0	5.7	5.8	2.5	2.7	3.4	4.0	2.9	3.3
1968	3.4	3.4	4.9	5.2	1.4	1.7	8.2	7.9	3.8	3.5	4.6	4.3	3.9	3.9
1969	.4	.1	3.0	3.0	2.5	2.9	7.0	6.8	1.5	1.3	6.6	6.7	4.3	4.2
1970	2.0	1.4	-.1	-.2	-2.0	-1.6	7.8	7.2	1.9	1.4	5.7	5.7	4.4	4.5
1971	4.3	4.1	3.8	3.8	-.4	-.3	6.4	6.5	1.9	2.0	2.0	2.3	4.5	4.5
1972	3.3	3.4	6.7	6.9	3.3	3.4	6.3	6.4	3.0	3.1	2.9	2.9	3.3	2.9
1973	3.2	3.1	7.0	7.3	3.7	4.0	8.6	8.2	2.2	1.9	5.2	4.9	5.2	3.6
1974	-1.7	-1.6	-1.5	-1.5	.1	.1	9.7	9.9	-1.2	-1.1	11.6	11.6	9.4	10.0
1975	3.5	2.7	-1.0	-1.7	-4.3	-4.3	10.3	10.1	1.0	.9	6.6	7.2	9.5	10.6
1976	3.4	3.6	6.7	7.1	3.2	3.4	8.8	8.6	2.9	2.7	5.2	4.9	5.4	5.6
1977	1.7	1.6	5.7	5.7	3.9	4.0	7.9	8.0	1.3	1.4	6.0	6.3	6.1	6.4
1978	1.1	1.3	6.1	6.4	4.9	5.0	8.9	9.1	1.3	1.4	7.7	7.6	7.3	6.9
1979	-.4	-.8	2.9	2.8	3.4	3.6	9.7	9.5	-1.5	-1.7	10.1	10.3	8.6	8.6
1980	-.3	-.4	-1.2	-1.2	-.9	-.8	10.8	10.8	-2.4	-2.4	11.1	11.2	9.1	9.8
1981	1.8	1.1	2.5	1.9	.7	.7	9.5	9.7	-.8	-.6	7.6	8.5	9.3	9.6
1982	-.5	-.8	-3.1	-3.2	-2.5	-2.5	7.5	7.4	1.2	1.1	8.0	8.2	5.9	6.4
1983	3.2	4.2	4.9	6.1	1.7	1.9	4.2	4.2	.9	1.0	.9	.1	3.7	3.4
1984	2.5	1.7	8.5	7.9	5.8	6.0	4.4	4.2	.0	-.1	1.8	2.5	3.0	3.1
1985	1.6	1.0	3.9	3.6	2.2	2.5	4.9	4.6	1.3	1.0	3.2	3.6	3.0	3.4
1986	2.6	2.6	3.3	3.4	.7	.8	5.2	5.2	3.3	3.2	2.5	2.5	2.1	2.2
1987	-.1	-.2	2.9	3.0	3.0	3.2	3.9	3.8	.2	.1	3.9	4.0	2.6	2.6
1988	.7	.8	3.8	4.1	3.1	3.3	4.7	4.5	.6	.8	4.0	3.7	3.5	3.4
1989	.8	.6	3.4	3.2	2.5	2.6	2.8	2.7	-1.9	-2.0	1.9	2.1	4.2	4.2
1990	.7	.5	.8	.7	.2	.3	5.7	5.5	.3	.1	5.0	5.0	4.0	4.2
1991	.6	.7	-1.7	-1.8	-2.3	-2.4	4.8	4.9	.5	.7	4.1	4.2	3.8	4.1
1992	3.4	3.1	3.2	3.0	-.2	-.1	5.2	5.1	2.1	2.1	1.7	1.9	2.4	2.4
1993	.1	.1	2.7	3.0	2.6	2.9	2.5	2.2	-.5	-.7	2.4	2.2	2.5	2.5
1994	.6	.5	4.1	3.9	3.5	3.3	1.8	1.9	-.7	-.6	1.2	1.4	2.2	2.3
1995	.3	.6	2.7	3.0	2.4	2.4	2.3	2.4	-.5	-.5	2.0	1.8	2.0	2.0
1996	2.7	2.4	4.2	4.1	1.5	1.6	3.6	3.5	.7	.6	.9	1.1	1.6	1.4
1997	1.7	1.4	4.6	4.5	2.9	3.0	3.8	3.7	1.5	1.4	2.1	2.3	1.7	1.9
1993:I	-4.4	-4.6	-1.2	-.8	3.4	3.9	1.8	1.1	-1.0	-1.6	6.5	6.0	3.5	3.8
II	-.6	-1.1	2.7	2.6	3.3	3.7	3.3	2.9	.3	-.1	4.0	4.0	2.1	1.7
III	.5	1.5	2.8	3.9	2.2	2.4	1.5	1.3	-.4	-.6	1.0	-.2	1.6	1.5
IV	3.8	2.7	7.1	6.1	3.2	3.2	1.0	1.1	-2.2	-2.1	-2.7	-1.6	2.7	2.6
1994:I	0	-.2	2.6	1.6	2.6	1.8	4.0	4.3	2.0	2.3	4.0	4.5	2.0	2.1
II	-.1	.5	6.4	6.6	6.5	6.1	-.3	.2	-2.8	-2.3	-.2	-.3	2.1	2.5
III	-1.4	-1.8	1.5	1.5	3.0	3.4	.8	.5	-2.8	-3.1	2.3	2.4	2.7	3.2
IV	1.2	1.8	4.6	5.0	3.3	3.1	3.2	3.5	.7	1.0	1.9	1.7	2.5	2.4
1995:I	-1.0	-.4	2.0	2.5	3.0	2.9	2.1	2.0	-.5	-.6	3.1	2.5	1.9	1.9
II	.9	.9	.3	.5	-.6	-.5	3.0	2.8	-.4	-.6	2.0	1.8	1.6	1.6
III	1.3	1.8	4.4	4.9	3.1	3.1	2.9	3.1	.8	.9	1.5	1.2	1.6	1.2
IV	3.2	2.6	3.6	3.3	.4	.7	3.8	3.5	1.3	1.0	.6	.9	1.3	.9
1996:I	4.4	4.1	4.5	4.2	.1	.0	2.5	2.6	-.7	-.5	-1.9	-1.5	1.9	1.7
II	3.5	3.0	6.4	6.4	2.9	3.3	5.6	5.2	1.8	1.4	2.1	2.2	1.7	1.3
III	.1	0	2.5	2.5	2.4	2.4	4.0	3.7	1.5	1.3	3.8	3.7	1.6	1.4
IV	1.5	1.2	5.1	5.0	3.5	3.7	3.4	3.3	.0	-.0	1.8	2.1	1.5	2.2
1997:I	1.0	.5	4.9	4.5	3.9	4.1	3.9	4.0	1.7	1.8	2.8	3.6	2.5	3.1
II	2.0	1.8	4.7	4.5	2.6	2.6	2.6	2.6	1.3	1.2	.6	.7	1.4	1.5
III	3.7	3.6	4.9	4.8	1.2	1.2	4.1	3.9	2.1	2.0	.8	.3	1.1	1.4
IV	.9	.9	3.6	4.0	2.7	3.0	5.3	4.9	3.1	2.8	4.4	4.0	.9	.9
1998:I	4.1	3.5	7.1	7.0	2.9	3.4	4.9	4.6	4.4	4.1	.8	1.1	.2	.6
II	.1	.3	1.7	1.7	1.7	1.5	4.1	4.0	2.0	2.0	4.0	3.7	.3	.2
III	3.1	3.0	4.3	4.2	1.1	1.2	3.8	4.1	2.0	2.2	.7	1.1	.3	.6

[1] Output refers to real gross domestic product in the sector.

[2] Hours at work of all persons engaged in the sector, including hours of proprietors and unpaid family workers. Estimates based primarily on establishment data.

[3] Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Also includes an estimate of wages, salaries, and supplemental payments for the self-employed.

[4] Hourly compensation divided by the consumer price index for all urban consumers.

[5] Current dollar output divided by the output index.

Note.—Percent changes are based on original data and may differ slightly from percent changes based on indexes in Table B–49.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–51.—*Industrial production indexes, major industry divisions, 1948–98*

[1992=100; monthly data seasonally adjusted]

Year or month	Total industrial production	Manufacturing			Mining	Utilities
		Total	Durable	Nondurable		
1948	22.6	21.3	20.6	22.1	59.3	11.9
1949	21.4	20.2	18.7	21.7	52.6	12.7
1950	24.7	23.5	22.7	24.2	58.7	14.5
1951	26.8	25.4	25.6	25.0	64.4	16.5
1952	27.8	26.4	27.2	25.4	63.9	17.9
1953	30.2	28.8	30.7	26.5	65.6	19.4
1954	28.6	26.9	27.1	26.7	64.3	20.9
1955	32.2	30.3	31.0	29.6	71.7	23.3
1956	33.6	31.6	32.0	31.1	75.4	25.6
1957	34.1	31.9	32.2	31.6	75.5	27.3
1958	31.9	29.7	28.2	31.9	69.3	28.6
1959	35.7	33.5	32.4	35.1	72.5	31.5
1960	36.5	34.1	32.9	35.9	73.9	33.7
1961	36.7	34.2	32.3	37.0	74.4	35.6
1962	39.8	37.3	35.9	39.3	76.5	38.2
1963	42.1	39.5	38.3	41.4	79.5	40.9
1964	45.0	42.2	41.0	44.1	82.7	44.4
1965	49.5	46.8	46.6	47.1	85.8	47.1
1966	53.8	51.0	51.8	50.0	90.4	50.7
1967	55.0	52.0	52.3	51.6	92.1	53.3
1968	58.1	54.9	54.9	54.9	95.6	57.6
1969	60.7	57.4	57.1	57.8	99.5	62.7
1970	58.7	54.8	52.7	57.8	102.0	66.5
1971	59.5	55.6	52.5	60.2	99.5	69.7
1972	65.3	61.5	58.6	65.5	101.5	74.2
1973	70.6	66.9	65.4	68.8	102.5	77.1
1974	69.6	65.9	64.1	68.3	101.9	76.1
1975	63.4	59.3	56.1	64.0	99.7	76.9
1976	69.3	65.4	61.9	70.5	100.5	79.9
1977	74.9	71.2	68.1	75.7	103.4	82.0
1978	79.3	75.8	73.6	78.9	106.5	84.4
1979	82.0	78.5	77.4	79.9	108.3	86.8
1980	79.7	75.5	73.4	78.3	111.5	87.3
1981	81.0	76.7	74.6	79.5	115.6	85.0
1982	76.7	72.1	68.2	77.7	111.2	82.3
1983	79.5	76.3	72.2	81.9	106.6	83.7
1984	86.6	83.8	82.7	85.3	113.9	86.7
1985	88.0	85.7	85.6	86.0	111.0	88.8
1986	89.0	88.1	87.4	89.1	102.6	86.4
1987	93.2	92.8	92.0	93.8	102.1	89.4
1988	97.4	97.1	98.1	96.0	104.7	93.9
1989	99.1	99.0	100.5	97.3	103.2	97.1
1990	98.9	98.5	99.0	97.9	104.8	98.3
1991	97.0	96.2	95.5	97.0	102.6	100.4
1992	100.0	100.0	100.0	100.0	100.0	100.0
1993	103.5	103.7	105.4	101.8	99.9	103.9
1994	109.1	109.9	114.2	105.2	102.4	105.3
1995	114.4	115.9	124.0	107.1	102.0	109.0
1996	119.5	121.4	134.1	107.9	103.7	112.6
1997	126.8	129.7	147.1	111.3	105.8	112.8
1998 *p*	131.4	135.1	157.5	112.0	104.1	114.6
1997: Jan	123.0	125.3	139.8	110.0	104.3	113.4
Feb	123.9	126.4	141.7	110.4	105.5	111.0
Mar	124.4	127.0	142.3	111.0	106.3	109.6
Apr	125.1	127.7	143.6	111.1	105.4	112.7
May	125.5	128.1	144.5	111.0	106.6	111.4
June	126.1	129.0	146.3	110.9	105.9	111.4
July	127.0	129.8	147.7	111.2	106.1	113.7
Aug	127.8	130.8	149.6	111.3	105.5	113.1
Sept	128.5	131.4	150.3	111.8	106.6	114.4
Oct	129.3	132.2	151.8	112.0	106.2	116.1
Nov	129.9	133.3	153.3	112.6	104.9	113.6
Dec	130.3	133.7	154.0	112.7	106.4	113.1
1998: Jan	130.3	133.8	153.9	113.1	107.6	109.8
Feb	130.2	133.7	154.0	112.8	107.5	109.0
Mar	130.7	134.1	155.2	112.4	105.8	114.0
Apr	131.3	134.9	156.2	113.0	105.7	112.8
May	131.9	135.4	157.2	113.0	105.4	115.2
June	130.6	133.7	154.8	112.0	104.7	118.7
July	130.5	133.6	154.4	112.1	104.6	118.3
Aug	132.4	135.7	159.8	111.3	103.7	120.2
Sept	131.9	135.2	159.6	110.6	102.4	120.3
Oct *p*	132.6	136.3	161.1	111.2	101.8	117.4
Nov *p*	132.5	136.5	160.9	111.8	101.4	113.9
Dec *p*	132.8	136.7	161.5	111.8	100.8	115.7

Source: Board of Governors of the Federal Reserve System.

TABLE B–52.—*Industrial production indexes, market groupings, 1948–98*

[1992=100; monthly data seasonally adjusted]

Year or month	Total industrial production	Final products								Intermediate products	Materials			
		Total	Consumer goods				Equipment				Total	Durable	Nondurable	Energy
			Total	Automotive products	Other durable goods	Nondurable goods	Total[1]	Business	Defense and space					
1948	22.6	21.7	24.4	23.4	19.4	26.2	17.2	16.7	9.7	23.9	23.0	18.9	.....	.....
1949	21.4	21.1	24.3	23.2	18.0	26.4	15.3	14.6	10.2	22.6	21.0	16.9	.....	.....
1950	24.7	23.8	27.8	29.2	24.8	28.6	16.6	15.6	11.9	26.3	25.1	21.3	.....	.....
1951	26.8	25.7	27.5	25.8	21.4	29.6	23.1	19.1	29.3	27.6	27.8	24.3	.....	.....
1952	27.8	27.5	28.1	23.2	21.4	30.8	27.7	21.6	41.2	27.5	28.2	24.8	.....	.....
1953	30.2	29.4	29.8	29.3	24.2	31.7	30.1	22.5	49.4	29.4	31.3	28.9	.....	.....
1954	28.6	27.9	29.6	27.3	22.3	32.1	26.3	19.8	43.5	29.3	28.9	25.0	23.0	51.4
1955	32.2	30.1	33.0	36.3	26.3	34.5	26.9	21.4	39.8	33.2	34.2	30.6	26.3	57.8
1956	33.6	31.9	34.2	29.9	27.7	36.8	29.5	24.8	38.9	34.7	35.1	30.7	27.6	61.1
1957	34.1	32.8	35.1	31.3	27.1	37.9	30.7	25.8	40.6	34.7	35.1	30.6	27.4	61.8
1958	31.9	31.3	34.8	24.9	25.6	39.0	27.5	21.8	40.8	33.9	31.6	25.8	27.3	57.3
1959	35.7	34.3	38.1	31.2	29.4	41.7	30.2	24.5	43.0	37.5	36.4	30.7	31.2	60.7
1960	36.5	35.5	39.6	35.7	29.6	43.1	31.0	25.1	44.2	37.7	36.9	31.1	31.7	61.5
1961	36.7	35.8	40.4	32.6	30.5	44.5	30.6	24.4	44.9	38.5	36.9	30.4	33.0	62.0
1962	39.8	38.8	43.1	39.5	33.1	46.6	34.0	26.5	52.0	40.8	40.2	33.8	35.8	64.1
1963	42.1	41.0	45.5	43.2	35.7	48.7	36.1	27.8	56.1	43.1	42.8	36.0	37.9	67.9
1964	45.0	43.3	48.1	45.3	39.0	51.1	38.8	31.1	54.3	45.9	46.3	39.3	41.3	70.7
1965	49.5	47.6	51.8	55.8	44.2	53.3	43.1	35.6	60.1	48.9	51.6	45.0	45.3	73.9
1966	53.8	52.1	54.5	55.6	48.7	55.8	50.2	41.3	70.6	51.9	56.2	49.6	48.9	78.6
1967	55.0	54.2	55.8	48.9	49.3	58.7	53.4	42.1	80.6	54.0	55.7	47.8	49.8	81.3
1968	58.1	56.8	59.2	58.2	52.8	61.0	54.9	43.9	80.7	57.1	59.4	50.7	54.7	85.0
1969	60.7	58.6	61.4	58.5	56.3	63.1	56.4	46.8	76.8	60.2	62.9	53.3	59.2	89.4
1970	58.7	56.5	60.7	49.2	54.6	64.1	52.4	45.1	65.1	59.3	60.7	48.4	59.5	93.8
1971	59.5	57.0	64.2	62.7	57.8	66.0	49.1	42.9	58.5	61.1	61.6	48.6	62.0	94.6
1972	65.3	61.9	69.3	67.7	66.2	70.2	53.7	48.9	56.8	68.2	67.9	54.9	68.4	98.2
1973	70.6	66.5	72.4	74.7	70.0	72.4	59.9	57.2	55.5	72.6	74.3	62.8	73.4	98.9
1974	69.6	66.3	70.2	64.6	64.7	72.4	61.9	59.7	54.7	70.0	72.8	61.0	73.7	96.3
1975	63.4	62.4	67.4	60.8	57.0	70.9	56.7	53.3	53.7	63.2	63.9	50.8	65.6	94.2
1976	69.3	66.8	74.1	75.5	63.9	76.1	58.6	55.3	54.6	69.6	71.4	58.5	74.3	96.5
1977	74.9	72.4	79.5	87.2	71.8	79.8	64.3	62.0	54.4	75.7	76.9	64.6	78.9	97.9
1978	79.3	77.2	82.6	89.6	74.9	82.9	71.0	69.3	55.9	79.9	81.0	70.2	81.6	98.9
1979	82.0	79.7	81.5	81.4	73.6	82.9	77.6	77.3	57.7	82.0	83.9	73.3	84.4	101.4
1980	79.7	79.3	79.6	62.3	69.7	83.8	79.1	76.7	63.2	77.7	80.3	67.7	80.7	102.2
1981	81.0	81.2	80.1	61.6	70.7	84.7	82.8	78.0	64.5	77.6	81.4	70.4	82.3	100.2
1982	76.7	78.3	78.8	59.1	64.4	84.2	77.7	70.6	72.6	75.8	75.1	62.6	74.6	96.7
1983	79.5	80.0	83.2	74.3	73.1	86.2	76.6	68.3	80.4	81.0	78.3	68.2	81.0	94.7
1984	86.6	87.0	86.7	89.4	80.1	87.5	87.6	79.2	89.5	86.9	85.9	79.5	84.5	99.5
1985	88.0	89.3	87.6	95.4	77.3	88.5	91.8	82.5	103.8	89.1	86.3	80.9	83.2	99.1
1986	89.0	90.3	90.7	97.5	82.6	91.3	90.0	82.0	113.0	92.7	86.3	82.3	85.7	95.2
1987	93.2	93.3	93.7	100.7	89.1	93.6	92.9	85.1	117.5	100.7	90.4	87.5	90.9	96.2
1988	97.4	97.9	96.7	107.1	94.5	95.9	99.9	93.5	117.1	102.5	93.6	93.6	94.8	98.5
1989	99.1	99.9	97.7	108.9	95.9	96.7	103.7	98.8	117.4	102.9	97.0	95.7	97.2	99.5
1990	98.9	99.5	97.3	100.9	96.0	97.1	103.2	98.2	115.9	101.9	97.2	95.3	98.1	100.6
1991	97.0	97.7	97.0	90.3	95.2	98.1	98.8	95.7	106.7	97.5	95.9	93.2	96.9	100.8
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	103.5	103.4	103.1	111.3	107.9	101.4	104.0	105.6	93.8	102.5	103.9	106.8	101.9	99.5
1994	109.1	107.5	107.1	122.7	117.2	104.0	108.3	112.8	87.0	106.3	111.9	118.9	106.9	101.2
1995	114.4	111.5	109.5	121.6	121.4	106.5	114.9	122.5	83.0	108.1	120.4	133.8	108.5	102.4
1996	119.5	115.5	111.3	123.3	125.5	108.0	122.7	133.5	79.0	110.9	127.8	147.7	108.2	103.5
1997	126.8	121.1	114.1	129.1	130.1	110.2	133.9	148.7	76.2	115.2	138.2	165.0	113.4	103.7
1998[p]	131.4	125.6	115.4	132.9	138.0	110.4	144.2	163.6	75.7	118.1	144.0	176.3	113.4	103.8
1997: Jan	123.0	118.0	112.8	127.7	125.5	109.3	127.3	140.3	77.0	113.7	132.6	155.3	111.0	104.2
Feb	123.9	118.8	112.9	128.6	127.5	109.1	129.1	142.6	77.1	114.4	133.3	157.1	112.3	103.9
Mar	124.4	119.6	113.6	128.5	129.7	109.7	130.1	143.5	76.8	114.4	134.0	157.7	112.4	103.4
Apr	125.1	119.6	113.3	122.4	129.6	109.9	130.8	144.6	76.3	115.2	135.6	160.4	113.1	103.7
May	125.5	120.1	113.6	124.4	129.9	110.1	131.6	145.8	76.2	115.1	136.0	161.5	112.3	103.7
June	126.1	120.6	113.8	127.1	131.6	109.8	132.9	147.5	76.0	114.7	137.2	164.0	112.4	103.4
July	127.0	120.9	113.7	120.5	132.5	110.3	133.7	148.9	74.9	115.1	139.2	167.0	113.6	104.0
Aug	127.8	122.4	114.6	132.1	130.6	110.4	136.3	152.0	76.2	115.1	139.4	168.2	113.0	103.1
Sept	128.5	122.4	114.4	132.9	129.2	110.3	136.7	152.7	76.2	115.4	141.0	169.8	114.4	104.8
Oct	129.3	123.1	114.9	132.0	130.1	110.8	137.9	154.4	75.8	116.5	141.9	171.9	114.4	104.2
Nov	129.9	124.1	115.9	138.4	132.4	111.2	138.6	155.4	75.7	116.3	142.4	173.2	115.5	102.2
Dec	130.3	124.0	115.4	134.5	132.3	110.9	139.4	156.5	75.8	117.0	143.4	174.1	116.1	103.8
1998: Jan	130.3	124.5	116.0	133.0	136.7	111.3	139.5	156.3	76.2	117.0	142.6	173.6	114.8	103.0
Feb	130.2	124.2	115.2	131.5	136.9	110.5	140.3	157.0	76.3	117.1	142.5	173.5	114.9	102.8
Mar	130.7	125.3	115.8	132.7	138.5	110.8	142.4	160.1	75.9	116.9	142.7	173.7	114.2	103.7
Apr	131.3	126.2	116.4	134.6	138.8	111.4	143.6	162.2	75.9	117.3	143.1	174.5	114.4	103.8
May	131.9	126.6	116.8	136.8	139.4	111.5	144.2	163.1	76.0	118.2	143.6	175.4	114.1	104.3
June	130.6	125.5	115.1	121.7	137.8	111.2	144.1	163.6	75.8	118.0	141.8	171.7	113.9	104.8
July	130.5	124.7	114.0	107.3	138.7	111.2	143.9	163.5	76.1	119.1	141.9	171.8	114.1	104.8
Aug	132.4	126.8	116.1	141.7	138.5	110.3	146.0	166.6	76.5	119.1	144.4	177.4	113.1	104.4
Sept	131.9	126.0	114.8	136.4	138.0	109.3	146.2	167.4	75.5	118.3	144.4	177.7	112.0	105.2
Oct[p]	132.6	127.1	115.6	140.7	139.1	109.7	147.8	169.5	76.4	119.2	144.5	178.8	111.5	103.8
Nov[p]	132.5	126.8	115.8	139.9	139.7	110.0	146.5	168.2	75.4	119.3	144.6	179.4	111.6	103.0
Dec[p]	132.8	126.5	115.8	139.9	140.9	109.8	145.8	168.1	74.1	120.3	145.3	180.5	111.5	103.9

[1] Two components—oil and gas well drilling and manufactured homes—are included in total equipment, but not in detail shown.

Source: Board of Governors of the Federal Reserve System.

TABLE B–53.—*Industrial production indexes, selected manufactures, 1948–98*

[1992=100; monthly data seasonally adjusted]

Year or month	Durable manufactures								Nondurable manufactures				
	Primary metals		Fabricated metal products	Industrial machinery and equipment	Electrical machinery	Transportation equipment		Lumber and products	Apparel products	Textile mill products	Printing and publishing	Chemicals and products	Foods
	Total	Iron and steel				Total	Motor vehicles and parts						
1948	71.3	101.6	38.9	15.1	5.7	20.7	28.8	42.2	49.2	36.5	27.9	8.2	30.8
1949	60.0	66.7	35.1	12.9	5.4	20.8	29.5	37.3	48.8	33.7	24.5	8.0	31.1
1950	75.5	106.9	43.0	14.5	7.4	24.9	38.0	45.3	52.5	38.3	25.7	10.1	32.2
1951	82.1	119.5	45.9	18.4	7.4	27.8	34.8	45.2	51.5	38.0	26.2	11.4	32.8
1952	75.0	105.2	44.8	20.0	8.5	32.3	29.8	44.6	54.2	37.6	26.1	11.9	33.5
1953	85.0	121.3	50.6	20.9	9.7	40.6	37.6	47.1	54.9	38.6	27.3	12.9	34.2
1954	68.8	94.3	45.5	17.8	8.6	35.3	32.4	46.8	54.2	36.1	28.4	13.1	34.9
1955	89.4	125.3	52.0	19.5	9.9	40.6	43.4	52.3	59.9	41.2	31.3	15.3	36.9
1956	88.8	123.0	52.7	22.4	10.7	39.4	35.2	51.7	61.3	42.3	33.2	16.4	39.0
1957	85.0	118.5	54.1	22.3	10.6	42.2	36.9	47.4	61.1	40.3	34.4	17.3	39.6
1958	67.4	89.3	48.5	18.8	9.7	33.3	27.3	48.2	59.4	39.8	33.6	17.9	40.6
1959	78.8	102.8	54.4	21.9	11.8	37.7	35.4	54.6	65.4	45.0	35.9	20.8	42.6
1960	78.5	104.5	54.5	22.0	12.8	39.0	40.0	51.5	66.7	44.1	37.3	21.6	43.8
1961	77.0	99.8	53.1	21.4	13.6	36.7	35.1	53.6	67.1	45.4	37.5	22.7	45.0
1962	82.6	104.0	57.7	24.0	15.7	42.4	42.7	56.8	69.9	48.5	38.9	25.2	46.4
1963	89.1	113.3	59.6	25.6	16.1	46.5	47.3	58.5	72.7	50.3	40.9	27.6	48.1
1964	100.5	128.9	63.3	29.2	17.0	47.7	48.5	63.9	75.3	54.3	43.4	30.2	50.3
1965	110.6	141.4	69.6	32.0	20.3	56.7	62.0	66.4	79.5	59.1	46.2	33.7	51.5
1966	117.4	145.7	74.5	38.1	24.4	60.8	60.9	68.9	81.6	62.7	49.7	36.7	53.4
1967	108.5	134.6	77.9	38.9	24.5	59.5	53.6	68.2	81.2	62.7	52.4	38.4	55.8
1968	112.4	139.0	82.1	39.2	25.8	64.6	64.2	70.2	83.2	70.0	53.3	43.2	57.3
1969	120.9	151.4	83.5	42.4	27.5	64.1	64.5	70.1	85.9	73.6	55.9	46.7	59.2
1970	112.5	140.9	77.4	41.1	26.3	53.8	51.9	69.7	82.5	72.0	54.3	48.6	60.1
1971	106.7	128.9	77.0	38.2	26.4	58.2	65.0	71.5	83.5	76.0	54.8	51.7	62.0
1972	119.5	143.3	84.5	44.3	30.2	62.2	71.0	81.5	88.6	83.3	58.5	56.2	65.3
1973	135.6	163.1	93.9	51.8	34.4	70.8	82.7	82.2	89.3	86.7	60.0	63.6	66.6
1974	131.4	158.0	90.1	55.1	34.1	64.4	71.4	74.6	85.3	78.9	59.1	65.9	67.5
1975	104.7	127.0	78.1	47.7	29.3	57.9	60.5	69.5	77.9	75.2	55.3	60.1	67.1
1976	117.1	139.9	86.5	50.1	32.9	65.9	79.7	79.0	91.8	83.5	60.4	67.2	70.9
1977	119.0	138.0	94.7	56.6	38.1	71.9	92.4	86.1	98.0	88.3	66.3	72.4	74.6
1978	128.0	147.5	98.2	63.3	42.2	77.5	96.8	87.5	100.4	88.6	70.1	76.4	77.2
1979	130.0	148.4	101.6	70.2	46.9	78.7	89.0	86.3	95.3	91.5	72.0	79.2	77.9
1980	108.0	119.0	94.4	70.5	48.6	70.3	65.8	80.4	95.4	89.0	72.4	75.9	79.7
1981	113.9	126.6	93.0	74.7	51.0	66.9	62.8	78.1	97.3	86.3	74.3	77.3	81.4
1982	80.5	80.5	84.9	65.8	51.7	63.0	56.9	70.3	96.3	80.1	77.5	71.0	82.4
1983	88.2	90.0	87.2	65.2	55.9	70.5	72.1	83.3	100.3	89.9	81.4	76.0	84.6
1984	98.7	98.9	95.2	78.9	66.7	80.5	87.3	89.8	102.2	90.4	87.0	79.3	86.4
1985	98.4	98.8	96.5	81.2	68.4	88.8	95.0	92.0	98.6	86.5	90.2	79.4	88.9
1986	91.2	86.8	95.6	81.8	71.0	94.1	94.2	99.6	101.8	90.5	93.4	82.4	91.2
1987	97.8	95.4	101.9	86.0	75.6	96.1	94.9	104.9	105.5	96.3	102.5	87.0	93.5
1988	106.2	107.6	106.1	97.1	82.5	101.1	100.2	105.1	103.5	95.0	103.4	92.2	94.9
1989	104.9	106.2	104.8	103.0	85.8	105.1	101.2	104.3	100.3	96.5	103.5	95.1	95.9
1990	104.0	106.4	101.2	100.1	87.7	102.3	95.3	101.6	97.2	93.2	103.1	97.3	97.0
1991	96.7	96.0	96.2	95.4	89.6	96.5	88.5	94.5	97.8	92.7	99.1	96.4	98.4
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	105.7	107.1	104.4	109.9	109.6	103.6	113.2	100.8	102.4	105.3	100.7	101.5	102.0
1994	113.4	113.7	112.2	124.9	131.4	107.4	130.4	105.9	106.3	110.6	100.7	104.7	103.7
1995	116.8	117.7	116.4	143.9	166.3	106.4	132.7	107.9	107.1	110.2	101.4	107.3	105.8
1996	119.6	119.2	120.2	159.8	206.0	107.9	132.6	110.4	104.7	108.9	101.6	110.0	105.4
1997	125.3	124.2	124.7	179.4	253.4	117.1	139.9	114.2	102.8	112.2	105.2	114.9	108.0
1998[p]	123.8	120.7	127.2	203.7	291.5	123.1	141.2	116.9	99.2	112.7	105.2	115.5	109.5
1997: Jan	120.7	120.8	121.7	169.0	226.0	112.5	137.0	111.3	103.1	109.9	102.7	114.0	107.1
Feb	122.3	120.6	123.1	171.5	231.6	113.2	136.7	113.6	102.7	110.0	103.9	113.8	107.4
Mar	121.1	117.8	123.6	172.8	235.2	113.5	136.1	114.4	103.7	111.2	104.1	113.0	108.7
Apr	124.2	124.8	124.8	175.5	240.5	112.3	132.4	114.5	103.4	112.4	105.0	115.4	107.6
May	124.8	123.9	124.1	176.3	245.6	112.6	132.4	115.2	103.2	110.5	105.3	114.8	107.7
June	126.2	124.5	123.7	177.9	251.6	115.4	137.3	115.6	103.2	112.3	104.8	114.8	107.6
July	126.2	124.5	125.2	181.1	259.5	114.4	135.0	115.1	103.0	114.0	105.1	114.1	108.7
Aug	126.2	123.4	124.5	183.7	262.6	120.0	143.6	114.0	102.5	112.8	105.2	114.6	107.9
Sept	127.0	126.6	124.7	182.7	266.4	121.7	145.5	113.2	102.5	112.8	105.8	115.5	107.6
Oct	128.2	128.2	126.1	186.4	269.8	121.7	144.9	113.5	102.7	113.1	106.4	116.3	107.5
Nov	129.3	128.0	126.8	187.3	274.9	123.8	149.0	114.8	101.8	114.1	107.1	116.2	109.1
Dec	127.8	127.6	128.2	189.0	276.5	124.1	148.6	115.0	102.3	113.1	107.0	117.3	109.0
1998: Jan	129.2	128.9	127.6	191.8	277.7	121.3	141.9	115.2	102.5	115.0	106.4	117.0	110.5
Feb	128.1	128.2	126.6	192.3	278.5	121.5	140.4	116.2	101.1	113.2	106.4	116.7	109.9
Mar	127.1	127.7	127.2	198.4	278.2	122.3	140.0	115.3	101.6	112.6	105.4	116.6	109.7
Apr	127.5	126.7	127.8	200.6	208.8	123.3	140.8	116.1	101.0	113.3	105.5	117.7	110.3
May	126.5	125.5	128.7	202.5	282.0	125.2	144.1	116.4	100.4	114.5	105.6	116.9	110.7
June	122.1	119.8	128.0	205.8	285.5	114.2	121.1	116.7	100.5	112.0	105.5	116.2	109.2
July	122.6	120.2	127.8	209.0	289.4	108.2	107.6	117.5	100.1	113.2	105.4	115.7	109.0
Aug	124.4	122.5	126.3	207.0	290.8	130.3	154.2	118.5	99.2	111.8	104.9	114.3	107.9
Sept	120.1	113.4	126.2	207.7	297.7	127.6	149.9	117.0	98.3	111.2	104.6	113.3	107.7
Oct[p]	121.0	114.3	127.0	211.3	301.0	128.6	150.2	117.9	97.4	112.7	104.8	113.9	109.2
Nov[p]	118.6	109.7	127.3	212.1	303.0	127.4	149.0	118.9	95.7	111.3	105.3	114.0	111.1
Dec[p]	118.5	109.9	128.0	212.9	307.0	126.2	148.1	119.7	95.4	110.6	105.0	114.5	110.6

Source: Board of Governors of the Federal Reserve System.

TABLE B–54.—*Capacity utilization rates, 1948–98*

[Percent;[1] monthly data seasonally adjusted]

Year or month	Total industry	Manufacturing					Mining	Utilities
		Total	Durable goods	Nondurable goods	Primary processing	Advanced processing		
1948		82.5			87.3	80.0		
1949		74.2			76.2	73.2		
1950		82.8			88.5	79.8		
1951		85.8			90.2	83.4		
1952		85.4			84.9	85.9		
1953		89.3			89.4	89.3		
1954		80.1			80.6	80.0		
1955		87.0			92.0	84.2		
1956		86.1			89.4	84.4		
1957		83.6			84.7	83.1		
1958		75.0			75.4	74.9		
1959		81.6			83.0	81.1		
1960		80.1			79.8	80.5		
1961		77.3			77.9	77.2		
1962		81.4			81.5	81.6		
1963		83.5			83.8	83.4		
1964		85.6			87.8	84.6		
1965		89.5			91.0	88.8		
1966		91.1			91.4	91.1		
1967	87.0	87.2	87.5	86.3	85.3	88.0	81.2	94.5
1968	87.3	87.1	87.2	86.6	86.1	87.3	83.5	95.1
1969	87.3	86.6	86.7	86.5	86.5	86.4	86.5	96.7
1970	81.1	79.4	77.2	82.8	79.9	78.9	88.8	96.2
1971	79.4	77.9	74.7	82.6	78.7	77.1	87.3	94.6
1972	84.4	83.4	81.4	86.4	85.5	82.2	90.3	95.2
1973	88.4	87.7	88.0	87.3	90.5	86.2	92.3	93.5
1974	84.3	83.4	83.1	83.9	86.1	82.5	92.3	87.3
1975	74.6	72.9	70.6	76.3	72.1	73.3	89.7	84.4
1976	79.3	78.2	75.7	81.8	79.2	77.6	89.8	85.2
1977	83.5	82.6	80.8	85.3	83.8	81.9	90.9	85.0
1978	85.8	85.2	84.4	86.4	85.9	84.8	90.9	85.4
1979	86.0	85.3	85.6	84.9	86.0	84.9	91.4	86.6
1980	81.5	79.5	78.4	81.0	77.2	80.8	93.4	85.9
1981	80.8	78.3	76.8	80.4	77.2	78.8	93.9	82.5
1982	74.5	71.8	68.0	77.5	68.6	73.5	86.3	79.3
1983	75.7	74.4	70.1	80.8	74.5	74.4	80.4	79.7
1984	80.8	79.8	77.6	82.9	80.0	79.7	86.0	81.9
1985	79.8	78.8	76.8	81.5	79.1	78.6	84.3	83.5
1986	78.7	78.7	75.7	82.8	79.9	78.1	77.6	80.6
1987	81.3	81.3	77.9	85.9	84.5	79.9	80.3	82.5
1988	84.0	83.8	81.7	86.4	86.8	82.3	85.2	84.9
1989	84.1	83.6	82.0	85.7	86.1	82.5	86.9	86.3
1990	82.3	81.4	79.0	84.4	83.9	80.3	89.8	85.7
1991	79.3	77.9	74.7	81.9	79.6	77.2	88.4	86.3
1992	80.3	79.5	76.7	82.8	82.3	78.3	86.4	84.5
1993	81.3	80.5	78.8	82.4	84.0	79.0	86.0	87.2
1994	83.2	82.5	81.7	83.6	87.1	80.6	87.5	87.4
1995	83.4	82.7	82.0	83.5	86.5	81.0	86.8	89.2
1996	82.4	81.4	80.7	82.2	85.1	79.8	88.5	90.5
1997	82.9	82.0	81.2	83.1	85.3	80.7	89.1	89.7
1998[p]	81.9	80.9	80.4	81.8	83.5	79.9	86.9	91.4
1997: Jan	82.3	81.3	80.2	82.8	84.9	79.8	88.4	90.2
Feb	82.6	81.7	80.7	83.0	85.5	80.1	89.4	88.3
Mar	82.5	81.7	80.5	83.3	85.4	80.2	89.9	87.1
Apr	82.7	81.7	80.7	83.3	85.7	80.2	88.9	89.6
May	82.6	81.6	80.6	83.1	85.4	80.1	89.9	88.5
June	82.6	81.7	81.0	82.8	85.2	80.4	89.1	88.5
July	82.9	81.9	81.3	82.9	85.3	80.6	89.2	90.4
Aug	83.1	82.2	81.8	82.9	85.1	81.1	88.6	89.9
Sept	83.2	82.2	81.7	83.1	85.2	81.1	89.4	90.9
Oct	83.4	82.3	82.0	83.1	85.2	81.3	89.0	92.3
Nov	83.4	82.6	82.2	83.4	85.4	81.6	87.9	90.3
Dec	83.4	82.5	82.0	83.4	85.4	81.4	89.0	89.9
1998: Jan	83.0	82.2	81.4	83.5	85.2	81.0	90.0	87.2
Feb	82.6	81.8	81.0	83.1	84.7	80.7	89.9	86.6
Mar	82.6	81.6	81.1	82.6	84.4	80.6	88.4	90.5
Apr	82.6	81.7	81.1	82.9	84.6	80.7	88.2	89.5
May	82.6	81.6	81.1	82.7	84.3	80.7	87.9	91.3
June	81.5	80.2	79.3	81.8	83.3	79.2	87.3	94.0
July	81.1	79.8	78.6	81.7	83.4	78.5	87.2	93.7
Aug	82.0	80.7	80.9	80.9	83.1	79.9	86.3	95.1
Sept	81.3	80.1	80.3	80.2	82.1	79.5	85.2	95.0
Oct[p]	81.4	80.4	80.6	80.5	82.4	79.8	84.6	92.7
Nov[p]	81.0	80.1	80.0	80.3	82.3	79.5	84.2	89.9
Dec[p]	80.9	79.9	79.8	80.6	82.4	79.2	83.6	91.3

[1] Output as percent of capacity.

Source: Board of Governors of the Federal Reserve System.

TABLE B–55.—*New construction activity, 1959–98*

[Value put in place, billions of dollars; monthly data at seasonally adjusted annual rates]

Year or month	Total new construction	Private construction							Public construction		
		Total	Residential buildings[1]		Nonresidential buildings and other construction[1]				Total	Federal	State and local[5]
			Total[2]	New housing units	Total	Commercial[3]	Industrial	Other[4]			
1959	55.4	39.3	24.3	19.2	15.1	3.9	2.1	9.0	16.1	3.7	12.3
1960	54.7	38.9	23.0	17.3	15.9	4.2	2.9	8.9	15.9	3.6	12.2
1961	56.4	39.3	23.1	17.1	16.2	4.7	2.8	8.7	17.1	3.9	13.3
1962	60.2	42.3	25.2	19.4	17.2	5.1	2.8	9.2	17.9	3.9	14.0
1963	64.8	45.5	27.9	21.7	17.6	5.0	2.9	9.7	19.4	4.0	15.4
New series											
1964	75.1	54.9	30.5	24.1	24.4	7.9	5.0	11.5	20.2	3.7	16.5
1965	81.9	60.0	30.2	23.8	29.7	9.4	7.2	13.1	21.9	3.9	18.0
1966	85.8	61.9	29.6	21.8	33.3	9.4	9.3	14.6	23.8	3.8	20.0
1967	87.2	61.8	28.7	21.5	33.1	9.3	8.4	15.4	25.4	3.3	22.1
1968	96.8	69.4	34.2	26.7	35.2	10.4	8.5	16.3	27.4	3.2	24.2
1969	104.9	77.2	37.2	29.2	39.9	12.5	9.6	17.8	27.8	3.2	24.6
1970	105.9	78.0	35.9	27.1	42.1	13.0	9.3	19.8	27.9	3.1	24.8
1971	122.4	92.7	48.5	38.7	44.2	15.3	7.8	21.1	29.7	3.8	25.9
1972	139.1	109.1	60.7	50.1	48.4	18.8	6.7	22.9	30.0	4.2	25.8
1973	153.8	121.4	65.1	54.6	56.3	21.7	9.0	25.6	32.3	4.7	27.6
1974	155.2	117.0	56.0	43.4	61.1	21.7	11.5	27.9	38.1	5.1	33.0
1975	152.6	109.4	51.6	36.3	57.8	17.2	11.7	28.9	43.3	6.1	37.2
1976	172.1	128.2	68.3	50.8	59.9	17.0	10.5	32.4	44.0	6.8	37.2
1977	200.5	157.4	92.0	72.2	65.4	19.7	11.3	34.5	43.1	7.1	36.0
1978	239.9	189.7	109.8	85.6	79.9	24.7	16.2	39.0	50.1	8.1	42.0
1979	272.9	216.2	116.4	89.3	99.8	34.0	22.0	43.7	56.6	8.6	48.1
1980	273.9	210.3	100.4	69.6	109.9	41.7	20.5	47.7	63.6	9.6	54.0
1981	289.1	224.4	99.2	69.4	125.1	48.7	25.4	51.0	64.7	10.4	54.3
1982	279.3	216.3	84.7	57.0	131.6	53.9	26.1	51.6	63.1	10.0	53.1
1983	311.6	248.1	125.5	94.6	122.6	53.4	19.5	49.8	63.5	10.6	52.9
1984	369.0	298.8	153.8	113.8	144.9	71.6	20.9	52.4	70.2	11.2	59.0
1985	401.4	323.6	158.5	114.7	165.1	88.1	24.1	52.9	77.8	12.0	65.8
1986	429.9	345.3	187.1	133.2	158.2	84.0	21.0	53.2	84.6	12.4	72.2
1987	441.6	351.0	194.7	139.9	156.3	83.2	21.2	52.0	90.6	14.1	76.6
1988	455.6	360.9	198.1	138.9	162.8	86.4	23.2	53.2	94.7	12.3	82.5
1989	469.8	371.6	196.6	139.2	175.1	89.2	28.8	57.1	98.2	12.2	86.0
1990	468.5	361.1	182.9	128.0	178.2	85.8	33.6	58.8	107.5	12.1	95.4
1991	424.2	314.1	157.8	110.6	156.2	62.2	31.4	62.6	110.1	12.8	97.3
1992	452.1	336.2	187.8	129.6	148.4	53.2	29.0	66.2	115.8	14.4	101.5
1993	478.6	362.7	210.5	144.1	152.2	57.9	26.5	67.8	116.0	14.4	101.5
1994	519.5	399.3	238.9	167.9	160.5	64.4	28.9	67.1	120.2	14.4	105.8
1995	538.1	407.5	230.7	162.9	176.8	75.4	32.5	68.9	130.7	15.8	114.9
1996	583.6	446.3	256.5	179.4	189.8	87.0	32.7	70.2	137.3	15.4	122.0
1997	618.2	471.2	265.6	187.1	205.5	96.3	31.4	77.8	147.1	14.3	132.8
1997: Jan	602.1	461.2	259.0	179.7	202.2	97.4	32.6	72.2	140.9	13.7	127.2
Feb	618.4	470.2	264.4	185.5	205.8	100.2	33.2	72.4	148.2	14.3	133.9
Mar	617.2	466.0	264.9	185.7	201.1	96.2	30.2	74.7	151.3	13.6	137.7
Apr	613.2	466.9	266.1	187.0	200.7	92.9	30.2	77.6	146.4	13.5	132.8
May	610.8	466.3	265.8	187.0	200.5	93.3	30.6	76.6	144.5	13.3	131.2
June	611.6	465.2	262.9	184.5	202.3	94.7	31.1	76.5	146.5	13.7	132.8
July	620.5	473.3	263.2	184.7	210.1	99.0	32.7	78.4	147.2	14.1	133.1
Aug	623.4	475.5	263.5	185.1	212.0	98.9	33.4	79.7	147.9	13.9	134.0
Sept	623.3	475.9	266.1	187.8	209.8	96.0	32.2	81.6	147.4	14.8	132.7
Oct	626.6	477.5	268.6	190.9	208.9	97.2	30.9	80.9	149.1	15.2	133.8
Nov	623.1	475.3	268.9	190.8	206.4	96.4	30.1	80.0	147.7	15.7	132.0
Dec	626.3	478.4	273.0	194.6	205.3	95.9	29.8	79.7	147.9	15.6	132.3
1998: Jan	633.7	487.8	279.0	197.2	208.9	98.9	31.1	78.9	145.9	13.2	132.7
Feb	638.2	490.9	282.5	200.6	208.4	96.9	30.9	80.6	147.3	15.1	132.2
Mar	639.9	494.3	286.0	203.6	208.3	96.2	31.5	80.7	145.6	14.7	130.9
Apr	646.0	500.1	289.7	206.9	210.4	98.8	31.5	80.2	145.9	13.6	132.3
May	635.4	496.5	288.0	204.3	208.5	99.0	29.6	79.8	138.9	12.9	126.0
June	650.3	503.6	291.9	208.0	211.7	102.2	30.1	79.4	146.7	13.9	132.8
July	658.7	511.5	299.3	212.6	212.2	103.4	28.6	80.2	147.2	15.5	131.7
Aug	663.3	516.6	300.6	213.1	216.0	101.6	32.3	82.1	146.7	14.7	132.0
Sept	670.1	521.0	305.0	216.6	216.1	103.7	30.3	82.0	149.1	14.5	134.5
Oct	672.0	527.1	307.5	219.0	219.5	107.6	29.1	82.8	145.0	13.8	131.2
Nov	677.8	529.6	311.2	222.4	218.4	108.7	28.2	81.5	148.1	14.9	133.3

[1] Beginning 1960, farm residential buildings included in residential buildings; prior to 1960, included in nonresidential buildings and other construction.

[2] Includes residential improvements, not shown separately. Prior to 1964, also includes nonhousekeeping units (hotels, motels, etc.).

[3] Office buildings, warehouses, stores, restaurants, garages, etc., and, beginning 1964, hotels and motels; prior to 1964 hotels and motels are included in total residential.

[4] Religious, educational, hospital and institutional, miscellaneous nonresidential, farm (see also footnote 1), public utilities (telecommunications, gas, electric, railroad, and petroleum pipelines), and all other private.

[5] Includes Federal grants-in-aid for State and local projects.

Source: Department of Commerce, Bureau of the Census.

TABLE B–56.—*New housing units started and authorized, 1959–98*

[Thousands of units; monthly data at seasonally adjusted annual rates]

Year or month	New housing units started						New private housing units authorized[2]			
	Private and public[1]		Private (farm and nonfarm)[1]				Total	Type of structure		
	Total (farm and nonfarm)	Nonfarm	Total	Type of structure				1 unit	2 to 4 units	5 units or more
				1 unit	2 to 4 units	5 units or more				
1959	1,553.7	1,531.3	1,517.0	1,234.0	282.9		1,208.3	938.3	77.1	192.9
1960	1,296.1	1,274.0	1,252.2	994.7	257.5		1,148.0	746.1	64.6	187.4
1961	1,365.0	1,336.8	1,313.0	974.3	338.7		1,064.2	722.8	67.6	273.8
1962	1,492.5	1,468.7	1,462.9	991.4	471.5		1,186.6	716.2	87.1	383.3
1963	1,634.9	1,614.8	1,603.2	1,012.4	590.7		1,334.7	750.2	118.9	465.6
1964	1,561.0	1,534.0	1,528.8	970.5	108.4	450.0	1,285.8	720.1	100.8	464.9
1965	1,509.7	1,487.5	1,472.8	963.7	86.6	422.5	1,239.8	709.9	84.8	445.1
1966	1,195.8	1,172.8	1,164.9	778.6	61.1	325.1	971.9	563.2	61.0	347.7
1967	1,321.9	1,298.8	1,291.6	843.9	71.6	376.1	1,141.0	650.6	73.0	417.5
1968	1,545.4	1,521.4	1,507.6	895.4	80.9	527.3	1,353.4	694.7	84.3	574.4
1969	1,499.5	1,482.3	1,466.8	810.6	85.0	571.2	1,323.7	625.9	85.2	612.7
1970	1,469.0	(3)	1,433.6	812.9	84.8	535.9	1,351.5	646.8	88.1	616.7
1971	2,084.5	(3)	2,052.2	1,151.0	120.3	780.9	1,924.6	906.1	132.9	885.7
1972	2,378.5	(3)	2,356.6	1,309.2	141.3	906.2	2,218.9	1,033.1	148.6	1,037.2
1973	2,057.5	(3)	2,045.3	1,132.0	118.3	795.0	1,819.5	882.1	117.0	820.5
1974	1,352.5	(3)	1,337.7	888.1	68.1	381.6	1,074.4	643.8	64.3	366.2
1975	1,171.4	(3)	1,160.4	892.2	64.0	204.3	939.2	675.5	63.9	199.8
1976	1,547.6	(3)	1,537.5	1,162.4	85.9	289.2	1,296.2	893.6	93.1	309.5
1977	2,001.7	(3)	1,987.1	1,453.9	121.7	414.4	1,690.0	1,126.1	121.3	442.7
1978	2,036.1	(3)	2,020.3	1,433.3	125.0	462.0	1,800.5	1,182.6	130.6	487.3
1979	1,760.0	(3)	1,745.1	1,194.1	122.0	429.0	1,551.8	981.5	125.4	444.8
1980	1,312.6	(3)	1,292.2	852.2	109.5	330.5	1,190.6	710.4	114.5	365.7
1981	1,100.3	(3)	1,084.2	705.4	91.1	287.7	985.5	564.3	101.8	319.4
1982	1,072.1	(3)	1,062.2	662.6	80.0	319.6	1,000.5	546.4	88.3	365.8
1983	1,712.5	(3)	1,703.0	1,067.6	113.5	522.0	1,605.2	901.5	133.6	570.1
1984	1,755.8	(3)	1,749.5	1,084.2	121.4	544.0	1,681.8	922.4	142.6	616.8
1985	1,745.0	(3)	1,741.8	1,072.4	93.4	576.1	1,733.3	956.6	120.1	656.6
1986	1,807.1	(3)	1,805.4	1,179.4	84.0	542.0	1,769.4	1,077.6	108.4	583.5
1987	1,622.7	(3)	1,620.5	1,146.4	65.3	408.7	1,534.8	1,024.4	89.3	421.1
1988	(4)	(3)	1,488.1	1,081.3	58.8	348.0	1,455.6	993.8	75.7	386.1
1989	(4)	(3)	1,376.1	1,003.3	55.2	317.6	1,338.4	931.7	67.0	339.8
1990	(4)	(3)	1,192.7	864.8	37.5	260.4	1,110.8	793.9	54.3	262.6
1991	(4)	(3)	1,013.9	840.4	35.6	137.9	948.8	753.5	43.1	152.1
1992	(4)	(3)	1,199.7	1,029.9	30.7	139.0	1,094.9	910.7	45.8	138.4
1993	(4)	(3)	1,287.6	1,125.7	29.4	132.6	1,199.1	986.5	52.3	160.2
1994	(4)	(3)	1,457.0	1,198.4	35.0	223.5	1,371.6	1,068.5	62.2	241.0
1995	(4)	(3)	1,354.1	1,076.2	33.7	244.1	1,332.5	997.3	63.7	271.5
1996	(4)	(3)	1,476.8	1,160.9	45.2	270.8	1,425.6	1,069.5	65.8	290.3
1997	(4)	(3)	1,474.0	1,133.7	44.5	295.8	1,441.1	1,062.4	68.5	310.3
1998[p]	(4)	(3)	1,615.6	1,269.6	43.6	302.4	1,603.0	1,181.5	68.7	352.8
1997: Jan	(4)	(3)	1,394	1,138	42	214	1,399	1,061	65	273
Feb	(4)	(3)	1,547	1,231	42	274	1,450	1,074	64	312
Mar	(4)	(3)	1,477	1,139	44	294	1,438	1,020	65	353
Apr	(4)	(3)	1,480	1,134	41	305	1,423	1,052	69	302
May	(4)	(3)	1,404	1,095	34	275	1,422	1,046	65	311
June	(4)	(3)	1,502	1,132	40	330	1,398	1,051	68	279
July	(4)	(3)	1,461	1,144	38	279	1,441	1,052	77	312
Aug	(4)	(3)	1,383	1,076	43	264	1,445	1,059	64	322
Sept	(4)	(3)	1,501	1,174	45	282	1,475	1,084	67	324
Oct	(4)	(3)	1,529	1,124	64	341	1,502	1,106	74	322
Nov	(4)	(3)	1,523	1,167	40	316	1,475	1,102	58	315
Dec	(4)	(3)	1,540	1,130	62	348	1,467	1,094	82	291
1998: Jan	(4)	(3)	1,545	1,225	49	271	1,553	1,142	70	341
Feb	(4)	(3)	1,616	1,263	63	290	1,635	1,176	74	385
Mar	(4)	(3)	1,585	1,239	45	301	1,569	1,136	71	362
Apr	(4)	(3)	1,546	1,237	44	265	1,517	1,145	55	317
May	(4)	(3)	1,538	1,224	51	263	1,543	1,152	66	325
June	(4)	(3)	1,620	1,269	45	306	1,517	1,128	74	315
July	(4)	(3)	1,704	1,300	42	362	1,581	1,173	74	334
Aug	(4)	(3)	1,621	1,261	55	305	1,618	1,180	72	366
Sept	(4)	(3)	1,569	1,250	27	292	1,544	1,164	69	311
Oct	(4)	(3)	1,693	1,291	40	362	1,690	1,198	65	427
Nov[p]	(4)	(3)	1,662	1,367	33	262	1,656	1,238	62	356
Dec[p]	(4)	(3)	1,720	1,357	40	323	1,723	1,290	81	352

[1] Units in structures built by private developers for sale upon completion to local public housing authorities under the Department of Housing and Urban Development "Turnkey" program are classified as private housing. Military housing starts, including those financed with mortgages insured by FHA under Section 803 of the National Housing Act, are included in publicly owned starts and excluded from total private starts.

[2] Authorized by issuance of local building permit: in 19,000 permit-issuing places beginning 1994; in 17,000 places for 1984–93; in 16,000 places for 1978–83; in 14,000 places for 1972–77; in 13,000 places for 1967–71; in 12,000 places for 1963–66; and in 10,000 places prior to 1963.

[3] Not available separately beginning January 1970.

[4] Series discontinued December 1988.

Source: Department of Commerce, Bureau of the Census.

TABLE B–57.—*Manufacturing and trade sales and inventories, 1954–98*

[Amounts in millions of dollars; monthly data seasonally adjusted]

Year or month	Total manufacturing and trade			Manufacturing			Merchant wholesalers			Retail trade		
	Sales[1]	Inventories[2]	Ratio[3]	Sales[1]	Inventories[2]	Ratio[3]	Sales[1]	Inventories[2]	Ratio[3]	Sales[1]	Inventories[2]	Ratio[3]
1954	46,443	73,175	1.60	23,355	41,612	1.81	8,533	10,637	1.18	14,095	20,926	1.51
1955	51,694	79,516	1.47	26,480	45,069	1.62	9,893	11,678	1.13	15,321	22,769	1.43
1956	54,063	87,304	1.55	27,740	50,642	1.73	10,513	13,260	1.19	15,811	23,402	1.47
1957	55,879	89,052	1.59	28,736	51,871	1.80	10,475	12,730	1.23	16,667	24,451	1.44
1958	54,201	87,055	1.61	27,248	50,203	1.84	10,257	12,739	1.24	16,696	24,113	1.44
1959	59,729	92,097	1.54	30,286	52,913	1.75	11,491	13,879	1.21	17,951	25,305	1.41
1960	60,827	94,719	1.56	30,878	53,786	1.74	11,656	14,120	1.21	18,294	26,813	1.47
1961	61,159	95,580	1.56	30,922	54,871	1.77	11,588	14,488	1.21	18,249	26,221	1.44
1962	65,662	101,049	1.54	33,358	58,172	1.74	12,674	14,936	1.18	19,630	27,941	1.42
1963	68,995	105,463	1.53	35,058	60,029	1.71	13,382	16,048	1.20	20,556	29,386	1.43
1964	73,682	111,504	1.51	37,331	63,410	1.70	14,529	17,000	1.17	21,823	31,094	1.42
1965	80,283	120,929	1.51	40,995	68,207	1.66	15,611	18,317	1.17	23,677	34,405	1.45
1966	87,187	136,824	1.57	44,870	77,986	1.74	16,987	20,765	1.22	25,330	38,073	1.50
1967	90,820	145,681	1.60	46,486	84,646	1.82	19,576	25,786	1.32	24,757	35,249	1.42
1968	98,685	156,611	1.59	50,229	90,560	1.80	21,012	27,166	1.29	27,445	38,885	1.42
1969	105,690	170,400	1.61	53,501	98,145	1.83	22,818	29,800	1.31	29,371	42,455	1.45
1970	108,221	178,594	1.65	52,805	101,599	1.92	24,167	33,354	1.38	31,249	43,641	1.40
1971	116,865	188,991	1.62	55,906	102,567	1.83	26,492	36,568	1.38	34,497	49,856	1.45
1972	131,081	203,227	1.55	63,027	108,121	1.72	29,866	40,297	1.35	38,189	54,809	1.44
1973	153,677	234,406	1.53	72,931	124,499	1.71	38,115	46,918	1.23	42,631	62,989	1.48
1974	177,912	287,144	1.61	84,790	157,625	1.86	47,982	58,667	1.22	45,141	70,852	1.57
1975	182,198	288,992	1.59	86,589	159,708	1.84	46,634	57,774	1.24	48,975	71,510	1.46
1976	204,150	318,345	1.56	98,797	174,636	1.77	50,698	64,622	1.27	54,655	79,087	1.45
1977	229,513	350,706	1.53	113,201	188,378	1.66	56,136	73,179	1.30	60,176	89,149	1.48
1978	260,320	400,931	1.54	126,905	211,691	1.67	66,413	86,934	1.31	67,002	102,306	1.53
1979	297,701	452,640	1.52	143,936	242,157	1.68	79,051	99,679	1.26	74,713	110,804	1.48
1980	327,233	508,924	1.56	154,391	265,215	1.72	93,099	122,631	1.32	79,743	121,078	1.52
1981	355,822	545,786	1.53	168,129	283,413	1.69	101,180	129,654	1.28	86,514	132,719	1.53
1982	347,625	573,908	1.67	163,351	311,852	1.95	95,211	127,428	1.36	89,062	134,628	1.49
1983	369,286	590,287	1.56	172,547	312,379	1.78	99,225	130,075	1.28	97,514	147,833	1.44
1984	410,124	649,780	1.53	190,682	339,516	1.73	112,199	142,452	1.23	107,243	167,812	1.49
1985	422,583	664,039	1.56	194,538	334,749	1.73	113,459	147,409	1.28	114,586	181,881	1.52
1986	430,419	662,738	1.55	194,657	322,654	1.68	114,960	153,574	1.32	120,803	186,510	1.56
1987	457,735	709,848	1.50	206,326	338,109	1.59	122,968	163,903	1.29	128,442	207,836	1.55
1988	497,157	767,222	1.49	224,619	369,374	1.57	134,521	178,801	1.30	138,017	219,047	1.54
1989	527,039	815,455	1.52	236,698	391,212	1.63	143,760	187,009	1.28	146,581	237,234	1.58
1990	545,900	840,622	1.52	242,686	405,073	1.65	149,506	195,769	1.29	153,718	239,780	1.56
1991	542,815	834,595	1.53	239,847	390,950	1.65	148,306	200,389	1.33	154,661	243,256	1.54
1992	567,176	842,843	1.48	250,394	382,510	1.54	154,150	208,242	1.32	162,632	252,091	1.52
1993	595,015	869,367	1.44	260,635	384,039	1.47	161,560	216,919	1.32	172,820	268,409	1.51
1994	647,695	932,267	1.41	279,002	404,877	1.41	172,870	235,328	1.30	185,823	292,062	1.51
1995	682,501	991,655	1.43	299,555	430,985	1.41	188,837	253,556	1.31	194,109	307,114	1.56
1996	714,837	1,009,647	1.40	309,622	436,729	1.40	200,115	256,442	1.29	205,100	316,476	1.52
1997	749,645	1,053,078	1.38	327,452	456,133	1.37	208,342	273,298	1.27	213,851	323,647	1.50
1997: Jan	735,468	1,013,149	1.38	319,150	438,641	1.37	205,148	258,263	1.26	211,170	316,245	1.50
Feb	744,016	1,017,179	1.37	321,274	440,915	1.37	208,797	258,194	1.24	213,945	318,070	1.49
Mar	742,738	1,018,812	1.37	320,700	441,676	1.38	207,522	259,786	1.25	214,516	317,350	1.48
Apr	744,306	1,023,504	1.38	325,639	444,714	1.37	207,649	259,404	1.25	211,018	319,386	1.51
May	740,762	1,026,712	1.39	322,260	446,888	1.39	207,970	260,258	1.25	210,532	319,566	1.52
June	747,005	1,032,838	1.38	326,118	447,947	1.37	208,544	265,008	1.27	212,343	319,883	1.51
July	755,088	1,034,478	1.37	331,331	449,657	1.36	208,822	263,517	1.26	214,935	321,304	1.49
Aug	751,509	1,035,510	1.38	328,250	451,737	1.38	206,868	264,516	1.28	216,391	319,257	1.48
Sept	759,639	1,042,270	1.37	333,422	452,224	1.36	210,396	268,196	1.27	215,821	321,850	1.49
Oct	757,573	1,046,591	1.38	332,321	455,553	1.37	210,137	268,745	1.28	215,115	322,293	1.50
Nov	756,422	1,050,726	1.39	331,404	457,766	1.38	208,934	271,168	1.30	216,084	321,792	1.49
Dec	763,104	1,053,078	1.38	336,424	456,133	1.36	209,816	273,298	1.30	216,864	323,647	1.49
1998: Jan	761,165	1,055,034	1.39	331,937	458,197	1.38	210,224	272,130	1.29	219,004	324,707	1.48
Feb	768,061	1,062,460	1.38	335,883	461,178	1.37	211,312	275,750	1.30	220,866	325,532	1.47
Mar	771,877	1,068,754	1.38	338,991	461,948	1.36	213,781	277,624	1.30	221,105	329,182	1.49
Apr	772,160	1,070,555	1.39	335,553	464,668	1.38	213,900	275,933	1.29	222,707	329,954	1.48
May	772,405	1,070,022	1.39	333,622	465,729	1.40	213,413	277,699	1.30	225,370	326,594	1.45
June	774,639	1,070,515	1.38	335,110	466,701	1.39	213,904	277,518	1.30	225,625	326,296	1.45
July	773,762	1,070,875	1.38	335,380	467,636	1.39	214,229	277,466	1.30	224,153	325,773	1.45
Aug	772,454	1,074,870	1.39	336,445	468,445	1.39	211,713	280,591	1.33	224,296	325,834	1.45
Sept	779,478	1,080,866	1.39	340,481	468,552	1.38	213,856	284,128	1.33	225,141	328,186	1.46
Oct[p]	781,447	1,083,366	1.39	340,133	471,031	1.38	213,429	283,776	1.33	227,885	328,559	1.44
Nov[p]	784,861	1,088,217	1.39	341,370	471,720	1.38	214,145	285,365	1.33	229,346	331,132	1.44

[1] Annual data are averages of monthly not seasonally adjusted figures.

[2] Seasonally adjusted, end of period. Inventories beginning January 1982 for manufacturing and December 1980 for wholesale and retail trade are not comparable with earlier periods.

[3] Inventory/sales ratio. Annual data are: beginning 1982, averages of monthly ratios; for 1958–81, ratio of December inventories to monthly average sales for the year; and for earlier years, weighted averages. Monthly data are ratio of inventories at end of month to sales for month.

Note.—Earlier data are not strictly comparable with data beginning 1958 for manufacturing and beginning 1967 for wholesale and retail trade.

Source: Department of Commerce, Bureau of the Census.

TABLE B–58.—*Manufacturers' shipments and inventories, 1954–98*

[Millions of dollars; monthly data seasonally adjusted]

Year or month	Shipments[1]			Inventories[2]							
				Durable goods industries				Nondurable goods industries			
	Total	Durable goods industries	Nondurable goods industries	Total	Total	Materials and supplies	Work in process	Finished goods	Total	Materials and supplies	Work in process	Finished goods
1954	23,355	11,828	11,527	41,612	23,710	7,894	9,721	6,040	17,902	8,167	2,440	7,415
1955	26,480	14,071	12,409	45,069	26,405	9,194	10,756	6,348	18,664	8,556	2,571	7,666
1956	27,740	14,715	13,025	50,642	30,447	10,417	12,317	7,565	20,195	8,971	2,721	8,622
1957	28,736	15,237	13,499	51,871	31,728	10,608	12,837	8,125	20,143	8,775	2,864	8,624
1958	27,248	13,553	13,695	50,203	30,194	9,970	12,408	7,816	20,009	8,676	2,827	8,506
1959	30,286	15,597	14,689	52,913	32,012	10,709	13,086	8,217	20,901	9,094	2,942	8,865
1960	30,878	15,870	15,008	53,786	32,337	10,306	12,809	9,222	21,449	9,097	2,947	9,405
1961	30,922	15,601	15,321	54,871	32,496	10,246	13,211	9,039	22,375	9,505	3,108	9,762
1962	33,358	17,247	16,111	58,172	34,565	10,794	14,124	9,647	23,607	9,836	3,304	10,467
1963	35,058	18,255	16,803	60,029	35,776	11,053	14,835	9,888	24,253	10,009	3,420	10,824
1964	37,331	19,611	17,720	63,410	38,421	11,946	16,158	10,317	24,989	10,167	3,531	11,291
1965	40,995	22,193	18,802	68,207	42,189	13,298	18,055	10,836	26,018	10,487	3,825	11,706
1966	44,870	24,617	20,253	77,986	49,852	15,464	21,908	12,480	28,134	11,197	4,226	12,711
1967	46,486	25,233	21,253	84,646	54,896	16,423	24,933	13,540	29,750	11,760	4,431	13,559
1968	50,229	27,624	22,605	90,160	58,732	17,344	27,213	14,175	31,828	12,328	4,852	14,648
1969	53,501	29,403	24,098	98,145	64,598	18,636	30,282	15,680	33,547	12,753	5,120	15,674
1970	52,805	28,156	24,649	101,599	66,451	19,149	29,745	17,757	34,948	13,168	5,271	16,509
1971	55,906	29,324	25,982	102,567	66,136	19,679	28,550	17,907	36,431	13,686	5,678	17,067
1972	63,027	33,987	29,040	108,121	70,467	20,807	30,713	18,547	38,054	14,677	5,998	17,379
1973	72,931	39,635	33,296	124,499	81,196	25,944	35,490	19,758	43,307	18,147	6,729	18,431
1974	84,790	44,173	40,617	157,625	101,493	35,070	42,530	23,893	56,132	23,744	8,189	24,199
1975	86,589	43,598	42,991	159,708	102,590	33,903	43,227	25,460	57,118	23,565	8,834	24,719
1976	98,797	50,623	48,174	174,636	111,988	37,457	46,074	28,457	62,648	25,847	9,929	26,872
1977	113,201	59,168	54,033	188,378	120,877	40,186	50,226	30,465	67,501	27,387	10,961	29,153
1978	126,905	67,731	59,174	211,691	138,181	45,198	58,848	34,135	73,510	29,619	12,085	31,806
1979	143,936	75,927	68,009	242,157	160,734	52,670	69,325	38,739	81,423	32,814	13,910	34,699
1980	154,391	77,419	76,972	265,215	174,788	55,173	76,945	42,670	90,427	36,606	15,884	37,937
1981	168,129	83,727	84,402	283,413	186,443	57,998	80,998	47,447	96,970	38,165	16,194	42,611
1982	163,351	79,212	84,139	311,852	200,444	59,136	86,707	54,601	111,408	44,039	18,612	48,757
1983	172,547	85,481	87,066	312,379	199,854	60,325	86,899	52,630	112,525	44,816	18,691	49,018
1984	190,682	97,940	92,742	339,516	221,330	66,031	98,251	57,048	118,186	45,692	19,328	53,166
1985	194,538	101,279	93,259	334,749	218,191	63,904	98,162	56,127	116,556	44,106	19,442	53,008
1986	194,657	103,238	91,419	322,654	211,997	61,331	87,000	53,666	110,657	42,335	18,124	50,198
1987	206,326	108,128	98,198	338,109	220,799	63,562	102,393	54,844	117,310	45,319	19,270	52,721
1988	224,619	118,458	106,161	369,374	242,468	69,611	112,958	59,899	126,906	49,396	20,559	56,951
1989	236,698	123,158	113,540	391,212	257,513	72,435	122,251	62,827	133,699	50,674	21,653	61,372
1990	242,686	123,776	118,910	405,073	263,209	73,559	124,130	65,520	141,864	52,645	22,817	66,402
1991	239,847	121,000	118,847	390,950	250,019	70,834	114,960	64,225	140,931	53,011	22,815	65,105
1992	250,394	128,489	121,905	382,510	238,105	69,459	104,424	64,222	144,405	54,007	23,532	66,866
1993	260,635	135,886	124,749	384,039	239,334	72,590	102,468	64,276	144,705	55,072	23,371	66,262
1994	279,002	149,131	129,870	404,877	253,624	78,468	107,037	68,119	151,253	58,157	24,638	68,458
1995	299,555	160,586	138,970	430,985	268,353	85,577	107,209	75,567	162,632	62,324	26,007	74,301
1996	309,622	167,013	142,608	436,729	273,815	86,438	111,289	76,088	162,914	60,416	26,621	75,877
1997	327,452	179,892	147,560	456,133	286,372	89,844	117,236	79,292	169,761	61,233	29,498	79,030
1997: Jan	319,150	172,304	146,846	438,641	275,517	86,626	111,940	76,951	163,124	60,350	26,924	75,850
Feb	321,274	174,534	146,740	440,915	277,080	86,655	112,681	77,744	163,835	60,822	27,137	75,876
Mar	320,700	175,504	145,196	441,676	277,399	87,530	113,067	76,802	164,277	60,721	27,344	76,212
Apr	325,639	178,523	147,116	444,714	279,880	87,649	113,947	78,284	164,834	60,660	27,586	76,588
May	322,260	175,749	146,511	446,888	281,143	88,017	114,443	78,683	165,745	60,843	28,042	76,860
June	326,118	180,038	146,080	447,947	282,013	88,514	114,629	78,870	165,934	60,675	27,846	77,413
July	331,331	183,484	147,847	449,657	283,723	89,322	115,402	78,999	165,934	60,545	27,994	77,395
Aug	328,250	180,554	147,696	451,737	284,982	89,036	116,214	79,732	166,755	60,577	28,363	77,815
Sept	333,422	184,966	148,456	452,224	284,660	89,841	115,538	79,281	167,564	61,115	28,562	77,887
Oct	332,321	183,225	149,096	455,553	286,654	90,147	116,574	79,933	168,899	61,388	29,053	78,458
Nov	331,404	182,791	148,613	457,766	287,949	90,004	117,998	79,947	169,817	60,770	29,464	79,583
Dec	336,424	186,007	150,417	456,133	286,372	89,844	117,236	79,292	169,761	61,233	29,498	79,030
1998: Jan	331,937	182,303	149,634	458,197	288,086	90,779	117,542	79,765	170,111	61,732	29,348	79,031
Feb	335,883	187,298	148,585	461,178	290,153	91,428	118,362	80,363	171,025	62,130	29,622	79,273
Mar	338,991	189,998	148,993	461,948	290,887	91,922	118,438	80,527	171,061	62,364	29,390	79,307
Apr	335,553	186,843	148,710	464,668	293,393	92,470	120,494	80,429	171,275	62,086	29,746	79,443
May	333,622	185,789	147,833	465,729	294,375	92,778	121,101	80,496	171,354	61,926	29,800	79,628
June	335,110	186,536	148,574	466,701	295,143	93,198	121,420	80,525	171,558	62,374	29,828	79,356
July	335,380	186,907	148,473	467,636	295,669	93,445	121,367	80,857	171,967	62,673	29,678	79,616
Aug	336,445	188,789	147,656	468,445	296,913	93,042	122,962	81,009	171,532	62,627	29,275	79,630
Sept	340,481	192,842	147,639	468,552	296,757	93,291	122,063	81,403	171,795	62,636	29,164	79,793
Oct	340,133	193,818	146,315	471,031	298,561	93,345	123,446	81,770	172,470	62,691	29,402	80,377
Nov[p]	341,370	194,923	146,447	471,720	298,463	93,187	122,838	82,438	173,257	62,855	29,890	80,512

[1] Annual data are averages of monthly not seasonally adjusted figures.
[2] Seasonally adjusted, end of period. Data beginning 1982 are not comparable with data for prior periods.

Note.—Data beginning 1958 are not strictly comparable with earlier data.

Source: Department of Commerce, Bureau of the Census.

TABLE B–59.—*Manufacturers' new and unfilled orders, 1954–98*

[Amounts in millions of dollars; monthly data seasonally adjusted]

Year or month	New orders[1]				Unfilled orders[2]			Unfilled orders—shipments ratio[3]		
	Total	Durable goods industries		Non-durable goods industries	Total	Durable goods industries	Non-durable goods industries	Total	Durable goods industries	Non-durable goods industries
		Total	Capital goods industries, non-defense							
1954	22,335	10,768	.....	11,566	48,266	45,250	3,016	3.42	4.12	0.96
1955	27,465	14,996	.....	12,469	60,004	56,241	3,763	3.63	4.27	1.12
1956	28,368	15,365	.....	13,003	67,375	63,880	3,495	3.87	4.55	1.04
1957	27,559	14,111	.....	13,448	53,183	50,352	2,831	3.35	4.00	.85
1958	27,193	13,387	.....	13,805	46,609	43,807	2,802	3.02	3.62	.85
1959	30,711	15,979	.....	14,732	51,717	48,369	3,348	2.94	3.47	.92
1960	30,232	15,288	.....	14,944	44,213	41,650	2,563	2.71	3.29	.71
1961	31,112	15,753	.....	15,359	46,624	43,582	3,042	2.58	3.08	.78
1962	33,440	17,363	.....	16,078	47,798	45,170	2,628	2.64	3.18	.68
1963	35,511	18,671	.....	16,840	53,417	50,346	3,071	2.74	3.31	.72
1964	38,240	20,507	.....	17,732	64,518	61,315	3,203	2.99	3.59	.71
1965	42,137	23,286	.....	18,851	78,249	74,459	3,790	3.25	3.86	.79
1966	46,420	26,163	.....	20,258	96,846	93,002	3,844	3.74	4.48	.75
1967	47,067	25,803	.....	21,265	103,711	99,735	3,976	3.66	4.37	.73
1968	50,657	28,051	6,314	22,606	108,377	104,393	3,984	3.79	4.58	.69
1969	53,990	29,876	7,046	24,114	114,341	110,161	4,180	3.71	4.45	.69
1970	52,022	27,340	6,072	24,682	105,008	100,412	4,596	3.61	4.36	.76
1971	55,921	29,905	6,682	26,016	105,247	100,225	5,022	3.32	4.00	.76
1972	64,182	35,038	7,745	29,144	119,349	113,034	6,315	3.26	3.85	.86
1973	76,003	42,627	9,926	33,376	156,561	149,204	7,357	3.80	4.51	.91
1974	87,327	46,862	11,594	40,465	187,043	181,519	5,524	4.09	4.93	.62
1975	85,139	41,957	9,886	43,181	169,546	161,664	7,882	3.69	4.45	.82
1976	99,513	51,307	11,490	48,206	178,128	169,857	8,271	3.24	3.88	.74
1977	115,109	61,035	13,681	54,073	202,024	193,323	8,701	3.24	3.85	.71
1978	131,629	72,278	17,588	59,351	259,169	248,281	10,888	3.57	4.20	.81
1979	147,604	79,483	21,154	68,121	303,593	291,321	12,272	3.89	4.62	.82
1980	156,359	79,392	21,135	76,967	327,416	315,202	12,214	3.85	4.58	.75
1981	168,025	83,654	21,806	84,371	326,547	314,707	11,840	3.87	4.68	.69
1982	162,140	78,064	19,213	84,077	311,887	300,798	11,089	3.84	4.74	.62
1983	175,451	88,140	19,624	87,311	347,273	333,114	14,159	3.53	4.29	.69
1984	192,879	100,164	23,669	92,715	373,529	359,651	13,878	3.60	4.37	.64
1985	195,706	102,356	24,545	93,351	387,196	372,097	15,099	3.67	4.47	.68
1986	195,204	103,647	23,982	91,557	393,515	376,699	16,816	3.59	4.41	.70
1987	209,389	110,809	26,094	98,579	430,426	408,688	21,738	3.63	4.43	.83
1988	228,270	122,076	31,108	106,194	474,154	452,150	22,004	3.64	4.46	.76
1989	239,572	126,055	32,988	113,516	508,849	487,098	21,751	3.96	4.85	.77
1990	244,507	125,583	33,331	118,924	531,131	509,124	22,007	4.15	5.15	.76
1991	238,805	119,849	30,471	118,957	519,199	495,802	23,397	4.08	5.07	.79
1992	248,212	126,308	31,524	121,905	492,893	469,381	23,512	3.51	4.30	.75
1993	257,698	133,081	31,694	124,617	457,810	436,017	21,793	3.14	3.80	.71
1994	279,733	149,542	35,697	130,191	466,699	440,998	25,701	2.92	3.50	.75
1995	300,632	161,782	40,511	138,851	479,674	455,459	24,215	2.81	3.38	.68
1996	312,442	169,711	44,631	142,730	513,062	487,441	25,621	2.93	3.49	.72
1997	329,335	181,726	48,165	147,610	536,131	509,927	26,204	2.80	3.33	.69
1997: Jan	323,321	176,705	45,919	146,616	517,233	491,842	25,391	2.94	3.50	.71
Feb	325,819	179,495	47,009	146,324	521,778	496,803	24,975	2.90	3.46	.69
Mar	320,729	174,950	45,288	145,779	521,807	496,749	25,558	2.89	3.42	.72
Apr	324,449	177,171	44,763	147,278	520,617	494,897	25,720	2.85	3.36	.72
May	322,213	175,823	45,110	146,390	520,570	494,971	25,599	2.87	3.41	.71
June	326,998	180,714	47,617	146,284	521,450	495,647	25,803	2.82	3.34	.71
July	328,799	180,460	47,731	148,339	518,918	492,623	26,295	2.78	3.29	.71
Aug	333,083	185,624	47,903	147,459	523,751	497,693	26,058	2.84	3.36	.71
Sept	334,091	185,557	49,303	148,534	524,420	498,284	26,136	2.77	3.27	.71
Oct	334,576	185,410	50,450	149,166	526,675	500,469	26,206	2.80	3.32	.70
Nov	342,310	193,621	58,759	148,689	537,581	511,299	26,282	2.85	3.39	.70
Dec	334,974	184,635	47,027	150,339	536,131	509,927	26,204	2.80	3.33	.69
1998: Jan	336,432	187,048	52,302	149,384	540,626	514,672	25,954	2.86	3.41	.68
Feb	334,446	186,033	50,436	148,413	539,189	513,407	25,782	2.80	3.31	.69
Mar	334,712	185,963	50,502	148,749	534,910	509,372	25,538	2.75	3.25	.68
Apr	337,502	188,921	51,240	148,581	536,859	511,450	25,409	2.79	3.31	.67
May	330,233	182,777	50,834	147,456	533,470	508,438	25,032	2.79	3.31	.66
June	331,188	182,986	51,053	148,202	529,548	504,888	24,660	2.74	3.24	.65
July	334,821	186,617	50,763	148,204	528,989	504,598	24,391	2.72	3.23	.64
Aug	337,815	190,304	55,371	147,511	530,359	506,113	24,246	2.74	3.24	.65
Sept	340,388	192,783	53,540	147,605	530,266	506,054	24,212	2.70	3.17	.66
Oct	334,663	188,523	50,138	146,140	524,796	500,759	24,037	2.66	3.12	.65
Nov[p]	336,604	190,033	50,973	146,571	520,030	495,869	24,161	2.62	3.06	.64

[1] Annual data are averages of monthly not seasonally adjusted figures.
[2] Seasonally adjusted, end of period.
[3] Ratio of unfilled orders at end of period to shipments for period; excludes industries with no unfilled orders. Annual figures relate to seasonally adjusted data for December.

Note.—Data beginning 1958 are not strictly comparable with earlier data.

Source: Department of Commerce, Bureau of the Census.

TABLE B–60.—*Consumer price indexes for major expenditure classes, 1958–98*

[For all urban consumers; 1982–84=100, except as noted]

Year or month	All items (CPI–U)	Food and beverages		Apparel	Housing	Transportation	Medical care	Entertainment	Recreation[2]	Education and communication[2]	Other goods and services	Energy[3]
		Total[1]	Food									
1958	28.9	.....	30.2	44.6	.....	28.6	20.6	.....	.....	.....	.....	21.5
1959	29.1	.....	29.7	45.0	.....	29.8	21.5	.....	.....	.....	.....	21.9
1960	29.6	.....	30.0	45.7	.....	29.8	22.3	.....	.....	.....	.....	22.4
1961	29.9	.....	30.4	46.1	.....	30.1	22.9	.....	.....	.....	.....	22.5
1962	30.2	.....	30.6	46.3	.....	30.8	23.5	.....	.....	.....	.....	22.6
1963	30.6	.....	31.1	46.9	.....	30.9	24.1	.....	.....	.....	.....	22.6
1964	31.0	.....	31.5	47.3	.....	31.4	24.6	.....	.....	.....	.....	22.5
1965	31.5	.....	32.2	47.8	.....	31.9	25.2	.....	.....	.....	.....	22.9
1966	32.4	.....	33.8	49.0	.....	32.3	25.3	.....	.....	.....	.....	23.3
1967	33.4	35.0	34.1	51.0	30.8	33.3	28.2	40.7	.....	.....	35.1	23.8
1968	34.8	36.2	35.3	53.7	32.0	34.3	29.9	43.0	.....	.....	36.9	24.2
1969	36.7	38.1	37.1	56.8	34.0	35.7	31.9	45.2	.....	.....	38.7	24.8
1970	38.8	40.1	39.2	59.2	36.4	37.5	34.0	47.5	.....	.....	40.9	25.5
1971	40.5	41.4	40.4	61.1	38.0	39.5	36.1	50.0	.....	.....	42.9	26.5
1972	41.8	43.1	42.1	62.3	39.4	39.9	37.3	51.5	.....	.....	44.7	27.2
1973	44.4	48.8	48.2	64.6	41.2	41.2	38.8	52.9	.....	.....	46.4	29.4
1974	49.3	55.5	55.1	69.4	45.8	45.8	42.4	56.9	.....	.....	49.8	38.1
1975	53.8	60.2	59.8	72.5	50.7	50.1	47.5	62.0	.....	.....	53.9	42.1
1976	56.9	62.1	61.6	75.2	53.6	55.1	52.0	65.1	.....	.....	57.0	45.1
1977	60.6	65.8	65.5	78.6	57.4	59.0	57.0	68.3	.....	.....	60.4	49.4
1978	65.2	72.2	72.0	81.4	62.4	61.7	61.8	71.9	.....	.....	64.3	52.5
1979	72.6	79.9	79.9	84.9	70.1	70.5	67.5	76.7	.....	.....	68.9	65.7
1980	82.4	86.7	86.8	90.9	81.1	83.1	74.9	83.6	.....	.....	75.2	86.0
1981	90.9	93.5	93.6	95.3	90.4	93.2	82.9	90.1	.....	.....	82.6	97.7
1982	95.5	97.3	97.4	97.8	96.9	97.0	92.5	96.0	.....	.....	91.1	99.2
1983	99.6	99.5	99.4	100.2	99.5	99.3	100.6	100.1	.....	.....	101.1	99.9
1984	103.9	103.2	103.2	102.1	103.6	103.7	106.8	103.8	.....	.....	107.9	100.9
1985	107.6	105.6	105.6	105.0	107.7	106.4	113.5	107.9	.....	.....	114.5	101.6
1986	109.6	109.1	109.0	105.9	110.9	102.3	122.0	111.5	.....	.....	121.4	88.2
1987	113.6	113.5	113.5	110.6	114.2	105.4	130.1	115.3	.....	.....	128.5	88.6
1988	118.3	118.2	118.2	115.4	118.5	108.7	138.6	120.3	.....	.....	137.0	89.3
1989	124.0	124.9	125.1	118.6	123.0	114.1	149.3	126.5	.....	.....	147.7	94.3
1990	130.7	132.1	132.4	124.1	128.5	120.5	162.8	132.4	.....	.....	159.0	102.1
1991	136.2	136.8	137.3	128.7	133.6	123.8	177.0	138.4	.....	.....	171.6	102.5
1992	140.3	138.7	137.9	131.9	137.5	126.5	190.1	142.3	.....	.....	183.3	103.0
1993	144.5	141.6	140.9	133.7	141.2	130.4	201.4	145.8	.....	.....	192.9	104.2
1994	148.2	144.9	144.3	133.4	144.8	134.3	211.0	150.1	.....	.....	198.5	104.6
1995	152.4	148.9	148.4	132.0	148.5	139.1	220.5	153.9	.....	.....	206.9	105.2
1996	156.9	153.7	153.3	131.7	152.8	143.0	228.2	159.1	.....	.....	215.4	110.1
1997	160.5	157.7	157.3	132.9	156.8	144.3	234.6	162.5	.....	.....	224.8	111.5
1998[4]	163.0	161.1	160.7	133.0	160.4	141.6	242.1	.....	101.1	100.3	237.7	102.9
1997: Jan	159.1	156.9	156.5	129.6	155.1	145.0	231.8	161.3	.....	.....	220.0	113.3
Feb	159.6	156.9	156.5	131.9	155.8	144.8	232.7	161.8	.....	.....	220.7	113.1
Mar	160.0	157.1	156.6	134.5	155.9	144.9	233.4	162.1	.....	.....	221.4	111.2
Apr	160.2	157.1	156.6	136.1	155.8	144.8	233.8	162.2	.....	.....	222.7	110.0
May	160.1	157.1	156.6	135.3	155.9	144.4	234.2	162.2	.....	.....	223.1	109.9
June	160.3	157.1	156.6	132.4	156.9	144.0	234.4	162.7	.....	.....	223.1	112.3
July	160.5	157.5	157.0	130.2	157.5	143.7	234.8	162.6	.....	.....	223.5	111.4
Aug	160.8	158.1	157.6	130.0	157.6	143.8	235.2	163.0	.....	.....	225.7	112.5
Sept	161.2	158.4	157.9	133.0	157.7	144.3	235.4	163.0	.....	.....	228.1	113.9
Oct	161.6	158.7	158.2	134.9	157.7	144.5	235.8	163.1	.....	.....	229.4	111.5
Nov	161.5	158.9	158.5	134.7	157.7	143.9	236.4	162.9	.....	.....	229.9	110.7
Dec	161.3	159.1	158.7	131.6	157.7	143.2	237.1	163.1	.....	.....	230.1	108.4
1998: Jan[4]	161.6	160.3	159.9	129.8	158.3	142.7	238.1	.....	100.3	99.9	231.3	105.9
Feb	161.9	159.8	159.4	131.9	158.8	142.1	239.3	.....	100.7	99.8	233.1	103.2
Mar	162.2	160.1	159.7	134.9	159.2	141.4	239.8	.....	101.0	99.9	232.4	101.6
Apr	162.5	160.2	159.8	135.8	159.5	141.5	240.7	.....	101.1	99.9	234.7	101.9
May	162.8	160.7	160.3	135.3	159.7	142.0	241.4	.....	101.0	100.1	236.7	103.8
June	163.0	160.6	160.1	132.5	160.6	141.7	242.0	.....	101.2	100.1	236.4	105.7
July	163.2	160.9	160.5	129.6	161.2	141.8	242.7	.....	101.1	100.0	237.8	105.2
Aug	163.4	161.4	161.0	131.6	161.5	141.2	243.5	.....	101.3	100.1	238.0	103.8
Sept	163.6	161.5	161.1	133.6	161.5	140.7	243.9	.....	101.3	100.9	240.4	102.7
Oct	164.0	162.4	162.0	135.6	161.4	141.3	244.3	.....	101.1	101.0	241.3	101.3
Nov	164.0	162.5	162.1	135.0	161.3	141.5	244.7	.....	101.3	101.0	240.5	100.5
Dec	163.9	162.7	162.3	130.7	161.3	140.7	245.2	.....	101.2	100.7	250.3	98.9

[1] Includes alcoholic beverages, not shown separately.

[2] December 1997=100.

[3] Household fuels—gas (piped), electricity, fuel oil, etc.—and motor fuel. Motor oil, coolant, etc. also included through 1982.

[4] Data beginning 1998 reflect changes in series composition and renaming. The number of major groups was expanded from seven to eight. Data prior to 1998 reflect the renaming, but not the new compositions. For details, see *Monthly Labor Review*, December 1996.

Note.—Data beginning 1983 incorporate a rental equivalence measure for homeowners' costs.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–61.—*Consumer price indexes for selected expenditure classes, 1958–98*

[For all urban consumers; 1982–84=100, except as noted]

Year or month	Food and beverages				Housing							
		Food				Shelter			Fuels and utilities			
	Total[1]	Total	At home	Away from home	Total	Total[2]	Rent of primary residence	Owners' equivalent rent of primary residence[3]	Total[2]	Fuels		Furnishings and operations
										Total	Fuel oil and other fuels	Gas (piped) and electricity	
1958		30.2	32.0	24.1		24.5	37.6		24.8		13.7	21.9	
1959		29.7	31.2	24.8		24.7	38.2		25.4		13.9	22.4	
1960		30.0	31.5	25.4		25.2	38.7		26.0		13.8	23.3	
1961		30.4	31.8	26.0		25.4	39.2		26.3		14.1	23.5	
1962		30.6	32.0	26.7		25.8	39.7		26.3		14.2	23.5	
1963		31.1	32.4	27.3		26.1	40.1		26.6		14.4	23.5	
1964		31.5	32.7	27.8		26.5	40.5		26.6		14.4	23.5	
1965		32.2	33.5	28.4		27.0	40.9		26.6		14.6	23.5	
1966		33.8	35.2	29.7		27.8	41.5		26.7		15.0	23.6	
1967	35.0	34.1	35.1	31.3	30.8	28.8	42.2		27.1	21.4	15.5	23.7	42.0
1968	36.2	35.3	36.3	32.9	32.0	30.1	43.3		27.4	21.7	16.0	23.9	43.6
1969	38.1	37.1	38.0	34.9	34.0	32.6	44.7		28.0	22.1	16.3	24.3	45.2
1970	40.1	39.2	39.9	37.5	36.4	35.5	46.5		29.1	23.1	17.0	25.4	46.8
1971	41.4	40.4	40.9	39.4	38.0	37.0	48.7		31.1	24.7	18.2	27.1	48.6
1972	43.1	42.1	42.7	41.0	39.4	38.7	50.4		32.5	25.7	18.3	28.5	49.7
1973	48.8	48.2	49.7	44.2	41.2	40.5	52.5		34.3	27.5	21.1	29.9	51.1
1974	55.5	55.1	57.1	49.8	45.8	44.4	55.2		40.7	34.4	33.2	34.5	56.8
1975	60.2	59.8	61.8	54.5	50.7	48.8	58.0		45.4	39.4	36.4	40.1	63.4
1976	62.1	61.6	63.1	58.2	53.8	51.5	61.1		49.4	43.3	38.8	44.7	67.3
1977	65.8	65.5	66.8	62.6	57.4	54.9	64.8		54.7	49.0	43.9	50.5	70.4
1978	72.2	72.0	73.8	68.3	62.4	60.5	69.3		58.5	53.0	46.2	55.0	74.7
1979	79.9	79.9	81.8	75.9	70.1	68.9	74.3		64.8	61.3	62.4	61.0	79.9
1980	86.7	86.8	88.4	83.4	81.1	81.0	80.9		75.4	74.8	86.1	71.4	86.3
1981	93.5	93.6	94.8	90.9	90.4	90.5	87.9		86.4	87.2	104.6	81.9	93.0
1982	97.3	97.4	98.1	95.8	96.9	96.9	94.6		94.9	95.6	103.4	93.2	98.0
1983	99.5	99.4	99.1	100.0	99.5	99.1	100.1	102.5	100.2	100.5	97.2	101.5	100.2
1984	103.2	103.2	102.8	104.2	103.6	104.0	105.3	107.3	104.8	104.0	99.4	105.4	101.9
1985	105.6	105.6	104.3	108.3	107.7	109.8	111.8	113.2	106.5	104.5	95.9	107.1	103.8
1986	109.1	109.0	107.3	112.5	110.9	115.8	118.3	119.4	104.1	99.2	77.6	105.7	105.2
1987	113.5	113.5	111.9	117.0	114.2	121.3	123.1	124.8	103.0	97.3	77.9	103.8	107.1
1988	118.2	118.2	116.6	121.8	118.5	127.1	127.8	131.1	104.4	98.0	78.1	104.6	109.4
1989	124.9	125.1	124.2	127.4	123.0	132.8	132.8	137.4	107.8	100.9	81.7	107.5	111.2
1990	132.1	132.4	132.3	133.4	128.5	140.0	138.4	144.8	111.6	104.5	99.3	109.3	113.3
1991	136.8	136.3	135.8	137.9	133.6	146.3	143.3	150.4	115.3	106.7	94.6	112.6	116.0
1992	138.7	137.9	136.8	140.7	137.5	151.2	146.9	155.5	117.8	108.1	90.7	114.8	118.0
1993	141.6	140.9	140.1	143.2	141.2	155.7	150.3	160.5	121.3	111.2	90.3	118.5	119.3
1994	144.9	144.3	144.1	145.7	144.8	160.5	154.0	165.8	122.8	111.7	88.8	119.2	121.0
1995	148.9	148.4	148.8	149.0	148.5	165.7	157.8	171.3	123.7	111.5	88.1	119.2	123.0
1996	153.7	153.3	154.3	152.7	152.8	171.0	162.0	176.8	127.5	115.2	99.2	122.1	124.7
1997	157.7	157.3	158.1	157.0	156.8	176.3	166.7	181.9	130.8	117.9	99.8	125.1	125.4
1998[4]	161.1	160.7	161.1	161.1	160.4	182.1	172.1	187.8	128.5	113.7	90.0	121.2	126.6
1997: Jan	156.9	156.5	157.9	155.3	155.1	173.6	164.4	179.5	130.8	119.1	111.5	124.9	124.9
Feb	156.9	156.5	157.7	155.6	155.8	174.6	164.8	179.9	131.0	119.2	109.6	125.3	125.2
Mar	157.1	156.6	157.7	156.0	155.9	175.2	165.1	180.1	129.9	117.2	105.5	123.4	125.4
Apr	157.1	156.6	157.5	156.2	155.8	175.3	165.5	180.5	128.9	115.3	102.1	121.7	125.5
May	157.1	156.6	157.5	156.3	155.9	175.3	165.9	180.9	129.0	115.3	100.4	121.9	125.8
June	157.1	156.6	157.3	156.6	156.9	176.0	166.4	181.4	131.9	119.8	98.0	127.5	125.7
July	157.5	157.0	157.7	157.1	157.5	177.0	166.8	182.1	132.1	119.6	94.7	127.8	125.6
Aug	158.1	157.6	158.5	157.4	157.6	177.5	167.3	182.6	131.4	118.6	93.5	126.7	125.2
Sept	158.4	157.9	158.6	157.8	157.7	177.2	167.8	183.2	132.1	119.7	93.7	128.1	125.4
Oct	158.7	158.2	159.0	158.2	157.7	177.8	168.2	183.6	130.8	117.4	95.3	125.1	125.4
Nov	158.9	158.5	159.1	158.6	157.7	177.7	168.7	184.2	131.1	117.7	96.6	125.3	125.2
Dec	159.1	158.7	159.2	159.0	157.7	178.1	169.1	184.7	130.0	115.8	97.2	123.0	125.1
1998: Jan[4]	160.3	159.9	161.0	159.2	158.3	179.2	169.5	185.1	128.8	114.5	96.4	121.6	125.6
Feb	159.8	159.4	160.0	159.6	158.8	180.1	169.9	185.5	127.4	112.8	95.2	119.7	126.1
Mar	160.1	159.7	160.2	159.9	159.2	180.8	170.3	185.9	127.1	112.5	94.4	119.4	126.3
Apr	160.2	159.8	160.2	160.2	159.5	181.0	170.7	186.4	127.0	112.3	92.8	119.4	127.0
May	160.7	160.3	160.7	160.6	159.7	181.2	171.1	186.8	127.9	113.2	91.8	120.5	126.6
June	160.6	160.1	160.5	160.7	160.6	181.8	171.7	187.4	131.2	116.8	89.5	124.7	126.7
July	160.9	160.5	160.8	161.1	161.2	182.6	172.2	188.0	131.3	116.8	87.8	124.9	127.2
Aug	161.4	161.0	161.4	161.5	161.5	183.3	172.8	188.5	130.6	115.9	86.7	124.0	126.8
Sept	161.5	161.1	161.2	162.1	161.5	183.4	173.4	189.2	130.0	115.2	85.9	123.3	126.5
Oct	162.4	162.0	162.5	162.3	161.4	183.9	173.9	189.8	127.1	112.0	86.4	119.6	126.6
Nov	162.5	162.1	162.5	162.6	161.3	184.0	174.5	190.3	126.5	111.4	86.8	118.9	126.6
Dec	162.7	162.3	162.6	163.0	161.3	184.0	174.9	190.7	126.6	111.4	86.1	118.9	126.6

[1] Includes alcoholic beverages, not shown separately.
[2] Includes other items, not shown separately.
[3] December 1982=100.

See next page for continuation of table.

TABLE B–61.—*Consumer price indexes for selected expenditure classes, 1958–98*—Continued

[For all urban consumers; 1982–84=100, except as noted]

Year or month	Transportation								Medical care		
	Total	Private transportation						Public transportation	Total	Medical care commodities	Medical care services
		Total[2]	New vehicles		Used cars and trucks	Motor fuel	Motor vehicle maintenance and repair				
			Total[2]	New cars							
1958	28.6	29.5	50.1	50.0	24.0	23.4	25.4	20.9	20.6	46.1	17.9
1959	29.8	30.8	52.3	52.2	26.8	23.7	26.0	21.5	21.5	46.8	18.7
1960	29.8	30.6	51.6	51.5	25.0	24.4	26.5	22.2	22.3	46.9	19.5
1961	30.1	30.8	51.6	51.5	26.0	24.1	27.1	23.2	22.9	46.3	20.2
1962	30.8	31.4	51.4	51.3	28.4	24.3	27.5	24.0	23.5	45.6	20.9
1963	30.9	31.6	51.1	51.0	28.7	24.2	27.8	24.3	24.1	45.2	21.5
1964	31.4	32.0	50.9	50.9	30.0	24.1	28.2	24.7	24.6	45.1	22.0
1965	31.9	32.5	49.8	49.7	29.8	25.1	28.7	25.2	25.2	45.0	22.7
1966	32.3	32.9	48.9	48.8	29.0	25.6	29.2	26.1	26.3	45.1	23.9
1967	33.3	33.8	49.3	49.3	29.9	26.4	30.4	27.4	28.2	44.9	26.0
1968	34.3	34.8	50.7	50.7		26.8	32.1	28.7	29.9	45.0	27.9
1969	35.7	36.0	51.5	51.5	30.9	27.6	34.1	30.9	31.9	45.4	30.2
1970	37.5	37.5	53.1	53.0	31.2	27.9	36.6	35.2	34.0	46.5	32.3
1971	39.5	39.4	55.3	55.2	33.0	28.1	39.3	37.8	36.1	47.3	34.7
1972	39.9	39.7	54.8	54.7	33.1	28.4	41.1	39.3	37.3	47.4	35.9
1973	41.2	41.0	54.8	54.8	35.2	31.2	43.2	39.7	38.8	47.5	37.5
1974	45.8	46.2	58.0	57.9	36.7	42.2	47.6	40.6	42.4	49.2	41.4
1975	50.1	50.6	63.0	62.9	43.8	45.1	53.7	43.5	47.5	53.3	46.6
1976	55.1	55.6	67.0	66.9	50.3	47.0	57.6	47.8	52.0	56.5	51.3
1977	59.0	59.7	70.5	70.4	54.7	49.7	61.9	50.0	57.0	60.2	56.4
1978	61.7	62.5	75.9	75.8	55.8	51.8	67.0	51.5	61.8	64.4	61.2
1979	70.5	71.7	81.9	81.8	60.2	70.1	73.7	54.9	67.5	69.0	67.2
1980	83.1	84.2	88.5	88.4	62.3	97.4	81.5	69.0	74.9	75.4	74.8
1981	93.2	93.8	93.9	93.7	76.9	108.5	89.2	85.6	82.9	83.7	82.8
1982	97.0	97.1	97.5	97.4	88.8	102.8	96.0	94.9	92.5	92.3	92.6
1983	99.3	99.3	99.9	99.9	98.7	99.4	100.3	99.5	100.6	100.2	100.7
1984	103.7	103.6	102.6	102.8	112.5	97.9	103.8	105.7	106.8	107.5	106.7
1985	106.4	106.2	106.1	106.1	113.7	98.7	106.8	110.5	113.5	115.2	113.2
1986	102.3	101.2	110.6	110.6	108.8	77.1	110.3	117.0	122.0	122.8	121.9
1987	105.4	104.2	114.4	114.6	113.1	80.2	114.8	121.1	130.1	131.0	130.0
1988	108.7	107.6	116.5	116.9	118.0	80.9	119.7	123.3	138.6	139.9	138.3
1989	114.1	112.9	119.2	119.2	120.4	88.5	124.9	129.5	149.3	150.8	148.9
1990	120.5	118.8	121.4	121.0	117.6	101.2	130.1	142.6	162.8	163.4	162.7
1991	123.8	121.9	126.0	125.3	118.1	99.4	136.0	148.9	177.0	176.8	177.1
1992	126.5	124.6	129.2	128.4	123.2	99.0	141.3	151.4	190.1	188.1	190.5
1993	130.4	127.5	132.7	131.5	133.9	98.0	145.9	167.0	201.4	195.0	202.9
1994	134.3	131.4	137.6	136.0	141.7	98.5	150.2	172.0	211.0	200.7	213.4
1995	139.1	136.3	141.0	139.0	156.5	100.0	154.0	175.9	220.5	204.5	224.2
1996	143.0	140.0	143.7	141.4	157.0	106.3	158.4	181.9	228.2	210.4	232.4
1997	144.3	141.0	144.3	141.7	151.1	106.2	162.7	186.7	234.6	215.3	239.1
1998[4]	141.6	137.9	143.4	140.7	150.6	92.2	167.1	190.3	242.1	221.8	246.8
1997: Jan	145.0	141.8	145.4	143.0	154.7	108.6	161.1	185.8	231.8	212.8	236.3
Feb	144.8	141.9	145.4	142.9	154.4	108.1	161.2	182.4	232.7	213.9	237.1
Mar	144.9	141.5	145.4	142.9	154.4	106.4	161.5	188.1	233.4	214.7	237.7
Apr	144.8	141.3	145.2	142.6	154.3	106.0	161.9	189.8	233.8	215.2	238.1
May	144.4	141.0	144.6	142.1	153.9	105.7	162.2	188.1	234.2	215.6	238.5
June	144.0	140.7	144.2	141.7	151.8	105.9	162.6	186.6	234.4	216.0	238.7
July	143.7	140.1	143.7	141.1	149.9	103.9	162.9	189.4	234.8	216.0	239.2
Aug	143.8	140.8	143.0	140.4	148.5	107.6	163.3	183.4	235.2	215.5	239.8
Sept	144.3	141.0	142.7	140.0	148.2	109.3	163.5	186.0	235.4	215.3	240.0
Oct	144.5	140.9	143.3	140.6	147.9	106.7	163.9	190.9	235.8	215.6	240.5
Nov	143.9	140.6	144.0	141.3	147.6	104.6	164.0	185.9	236.4	215.8	241.2
Dec	143.2	140.0	144.1	141.5	147.9	101.9	164.7	184.3	237.1	216.8	241.8
1998: Jan[4]	142.7	139.3	144.4	141.8	148.1	97.8	165.0	187.1	238.1	217.6	242.9
Feb	142.1	138.4	144.4	141.7	148.4	94.1	165.5	191.2	239.3	218.4	244.2
Mar	141.4	137.5	144.4	141.7	147.3	90.9	165.7	193.7	239.8	218.5	244.8
Apr	141.5	137.7	144.3	141.5	148.2	91.7	165.7	193.4	240.7	220.2	245.4
May	142.0	138.4	143.3	140.6	150.0	94.7	165.9	190.4	241.4	221.5	245.9
June	141.7	138.2	142.6	140.0	150.9	94.8	166.5	188.2	242.0	222.1	246.5
July	141.8	138.0	142.7	140.1	151.3	93.7	166.8	192.0	242.7	222.2	247.4
Aug	141.2	137.4	142.8	140.0	151.1	91.6	167.3	192.2	243.5	223.1	248.2
Sept	140.7	137.0	142.3	139.4	151.9	90.0	168.3	190.2	243.9	224.0	248.4
Oct	141.3	137.7	142.5	139.7	153.0	90.8	169.0	189.9	244.3	224.2	249.0
Nov	141.5	138.0	143.5	140.6	154.0	89.7	169.5	187.4	244.7	224.5	249.3
Dec	140.7	137.2	144.1	141.3	153.1	86.2	169.6	188.4	245.2	225.6	249.6

[4] See footnote 4, Table B–60.

Note.—See Note, Table B–60.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–62.—*Consumer price indexes for commodities, services, and special groups, 1958–98*

[For all urban consumers; 1982–84=100, except as noted]

Year or month	All items (CPI–U)	Commodities			Services			Special indexes				
		All commodities	Food	Commodities less food	All services	Medical care services	Services less medical care services	All items less food	All items less energy	All items less food and energy	All items less medical care	CPI–U–X1 (all items) (Dec. 1982 =97.6)[1]
1958	28.9	33.3	30.2	35.3	22.6	17.9	23.6	28.6	29.7	29.6	29.5	31.4
1959	29.1	33.3	29.7	35.8	23.3	18.7	24.2	29.2	29.9	30.2	29.8	31.6
1960	29.6	33.6	30.0	36.0	24.1	19.5	25.0	29.7	30.4	30.6	30.2	32.2
1961	29.9	33.8	30.4	36.1	24.5	20.2	25.4	30.0	30.7	31.0	30.5	32.5
1962	30.2	34.1	30.6	36.3	25.0	20.9	25.9	30.3	31.1	31.4	30.8	32.8
1963	30.6	34.4	31.1	36.6	25.5	21.5	26.3	30.7	31.5	31.8	31.1	33.3
1964	31.0	34.8	31.5	36.9	26.0	22.0	26.8	31.1	32.0	32.3	31.5	33.7
1965	31.5	35.2	32.2	37.2	26.6	22.7	27.4	31.6	32.5	32.7	32.0	34.2
1966	32.4	36.1	33.8	37.7	27.6	23.9	28.3	32.3	33.5	33.5	33.0	35.2
1967	33.4	36.8	34.1	38.6	28.8	26.0	29.3	33.4	34.4	34.7	33.7	36.3
1968	34.8	38.1	35.3	40.0	30.3	27.9	30.8	34.9	35.9	36.3	35.1	37.7
1969	36.7	39.9	37.1	41.7	32.4	30.2	32.9	36.8	38.0	38.4	37.0	39.4
1970	38.8	41.7	39.2	43.4	35.0	32.3	35.6	39.0	40.3	40.8	39.2	41.3
1971	40.5	43.2	40.4	45.1	37.0	34.7	37.5	40.8	42.0	42.7	40.8	43.1
1972	41.8	44.5	42.1	46.1	38.4	35.9	38.9	42.0	43.4	44.0	42.1	44.4
1973	44.4	47.8	48.2	47.7	40.1	37.5	40.6	43.7	46.1	45.6	44.8	47.2
1974	49.3	53.5	55.1	52.8	43.8	41.4	44.3	48.0	50.6	49.4	49.8	51.9
1975	53.8	58.2	59.8	57.6	48.0	46.6	48.3	52.5	55.1	53.9	54.3	56.2
1976	56.9	60.7	61.6	60.5	52.0	51.3	52.2	56.0	58.2	57.4	57.2	59.4
1977	60.6	64.2	65.5	63.8	56.0	56.4	55.9	59.6	61.9	61.0	60.8	63.2
1978	65.2	68.8	72.0	67.5	60.8	61.2	60.7	63.9	66.7	65.5	65.4	67.5
1979	72.6	76.6	79.9	75.3	67.5	67.2	67.5	71.2	73.4	71.9	72.9	74.0
1980	82.4	86.0	86.8	85.7	77.9	74.8	78.2	81.5	81.9	80.8	82.8	82.3
1981	90.9	93.2	93.6	93.1	88.1	82.8	88.7	90.4	90.1	89.2	91.4	90.1
1982	96.5	97.0	97.4	96.9	96.0	92.6	96.4	96.3	96.1	95.8	96.8	95.6
1983	99.6	99.8	99.4	100.0	99.4	100.7	99.2	99.7	99.6	99.6	99.6	99.6
1984	103.9	103.2	103.2	103.1	104.6	106.7	104.4	104.0	104.3	104.6	103.7	103.9
1985	107.6	105.4	105.6	105.2	109.9	113.2	109.6	108.0	108.4	109.1	107.2	107.6
1986	109.6	104.4	109.0	101.7	115.4	121.9	114.6	109.8	112.6	113.5	108.8	109.6
1987	113.6	107.7	113.5	104.3	120.2	130.0	119.1	113.6	117.2	118.2	112.6	113.6
1988	118.3	111.5	118.2	107.7	125.7	138.3	124.3	118.3	122.3	123.4	117.0	118.3
1989	124.0	116.7	125.1	112.0	131.9	148.9	130.1	123.7	128.1	129.0	122.4	124.0
1990	130.7	122.8	132.4	117.4	139.2	162.7	136.8	130.3	134.7	135.5	128.8	130.7
1991	136.2	126.6	136.3	121.3	146.3	177.1	143.3	136.1	140.9	142.1	133.8	136.2
1992	140.3	129.1	137.9	124.2	152.0	190.5	148.4	140.8	145.4	147.3	137.5	140.3
1993	144.5	131.5	140.9	126.3	157.9	202.9	153.6	145.1	150.0	152.2	141.2	144.5
1994	148.2	133.8	144.3	127.9	163.1	213.4	158.4	149.0	154.1	156.5	144.7	148.2
1995	152.4	136.4	148.4	129.8	168.7	224.2	163.5	153.1	158.7	161.2	148.6	152.4
1996	156.9	139.9	153.3	132.6	174.1	232.4	168.7	157.5	163.1	165.6	152.8	156.9
1997	160.5	141.8	157.3	133.4	179.4	239.1	173.9	161.1	167.1	169.5	156.3	160.5
1998	163.0	141.9	160.7	132.0	184.2	246.8	178.4	163.4	170.9	173.4	158.6	163.0
1997: Jan	159.1	141.5	156.5	133.3	177.0	236.3	171.5	159.6	165.3	167.5	155.0	159.1
Feb	159.6	141.8	156.5	133.8	177.7	237.1	172.2	160.2	165.9	168.3	155.5	159.6
Mar	160.0	142.0	156.6	134.1	178.2	237.7	172.7	160.6	166.5	169.0	155.9	160.0
Apr	160.2	142.3	156.6	134.4	178.3	238.1	172.8	160.8	166.8	169.4	156.0	160.2
May	160.1	142.1	156.6	134.1	178.4	238.5	172.8	160.7	166.8	169.3	155.9	160.1
June	160.3	141.5	156.6	133.3	179.3	238.7	173.8	161.0	166.7	169.2	156.1	160.3
July	160.5	141.0	157.0	132.3	180.1	239.2	174.6	161.1	167.0	169.5	156.3	160.5
Aug	160.8	141.4	157.6	132.6	180.3	239.8	174.8	161.3	167.3	169.6	156.6	160.8
Sept	161.2	142.1	157.9	133.5	180.6	240.0	175.1	161.8	167.6	170.0	157.1	161.2
Oct	161.6	142.4	158.2	133.8	181.0	240.5	175.5	162.2	168.3	170.8	157.4	161.6
Nov	161.5	142.3	158.5	133.5	181.0	241.2	175.4	162.1	168.3	170.8	157.3	161.5
Dec	161.3	141.7	158.7	132.6	181.0	241.8	175.4	161.8	168.3	170.7	157.0	161.3
1998: Jan	161.6	141.6	159.9	131.9	181.8	242.9	176.1	161.9	169.0	171.2	157.3	161.6
Feb	161.9	141.5	159.4	131.9	182.4	244.2	176.6	162.3	169.6	172.1	157.5	161.9
Mar	162.2	141.5	159.7	131.8	182.9	244.8	177.2	162.6	170.1	172.6	157.8	162.2
Apr	162.5	142.0	159.8	132.4	183.2	245.4	177.4	163.0	170.4	173.0	158.1	162.5
May	162.8	142.3	160.3	132.7	183.4	245.9	177.6	163.3	170.5	173.1	158.4	162.8
June	163.0	141.8	160.1	132.1	184.2	246.5	178.4	163.5	170.5	173.0	158.6	163.0
July	163.2	141.6	160.5	131.5	184.9	247.4	179.0	163.6	170.8	173.3	158.7	163.2
Aug	163.4	141.7	161.0	131.4	185.3	248.2	179.5	163.9	171.2	173.8	159.0	163.4
Sept	163.6	141.8	161.1	131.6	185.5	248.4	179.6	164.1	171.6	174.2	159.2	163.6
Oct	164.0	142.6	162.0	132.3	185.5	249.0	179.7	164.4	172.2	174.7	159.5	164.0
Nov	164.0	142.5	162.1	132.1	185.6	249.3	179.7	164.3	172.3	174.8	159.5	164.0
Dec	163.9	142.2	162.3	131.7	185.7	249.6	179.8	164.2	172.3	174.8	159.4	163.9

[1] CPI–U–X1 is a rental equivalence approach to homeowners' costs for the consumer price index for years prior to 1983, the first year for which the official index (CPI–U) incorporates such a measure. CPI–U–X1 is rebased to the December 1982 value of the CPI–U (1982–84=100); thus it is identical with CPI–U data for December 1982 and all subsequent periods. Data prior to 1967 estimated by moving the series at the same rate as the CPI–U for each year.

Note.—See Note, Table B–60.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–63.—*Changes in special consumer price indexes, 1960–98*

[For all urban consumers; percent change]

Year or month	All items (CPI–U)		All items less food		All items less energy		All items less food and energy		All items less medical care	
	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year
1960	1.4	1.7	1.0	1.7	1.3	1.7	1.0	1.3	1.3	1.3
1961	.7	1.0	1.3	1.0	.7	1.0	1.3	1.3	.3	1.0
1962	1.3	1.0	1.0	1.0	1.3	1.3	1.3	1.3	1.3	1.0
1963	1.6	1.3	1.6	1.3	1.9	1.3	1.6	1.3	1.6	1.0
1964	1.0	1.3	1.0	1.3	1.3	1.6	1.2	1.6	1.0	1.3
1965	1.9	1.6	1.6	1.6	1.9	1.6	1.5	1.2	1.9	1.6
1966	3.5	2.9	3.5	2.2	3.4	3.1	3.3	2.4	3.4	3.1
1967	3.0	3.1	3.3	3.4	3.2	2.7	3.8	3.6	2.7	2.1
1968	4.7	4.2	5.0	4.5	4.9	4.4	5.1	4.6	4.7	4.2
1969	6.2	5.5	5.6	5.4	6.5	5.8	6.2	5.8	6.1	5.4
1970	5.6	5.7	6.6	6.0	5.4	6.1	6.6	6.3	5.2	5.9
1971	3.3	4.4	3.0	4.6	3.4	4.2	3.1	4.7	3.2	4.1
1972	3.4	3.2	2.9	2.9	3.5	3.3	3.0	3.0	3.4	3.2
1973	8.7	6.2	5.6	4.0	8.2	6.2	4.7	3.6	9.1	6.4
1974	12.3	11.0	12.2	9.8	11.7	9.8	11.1	8.3	12.2	11.2
1975	6.9	9.1	7.3	9.4	6.6	8.9	6.7	9.1	6.7	9.0
1976	4.9	5.8	6.1	6.7	4.8	5.6	6.1	6.5	4.5	5.3
1977	6.7	6.5	6.4	6.4	6.7	6.4	6.5	6.3	6.7	6.3
1978	9.0	7.6	8.3	7.2	9.1	7.8	8.5	7.4	9.1	7.6
1979	13.3	11.3	14.0	11.4	11.1	10.0	11.3	9.8	13.4	11.5
1980	12.5	13.5	13.0	14.5	11.7	11.6	12.2	12.4	12.5	13.6
1981	8.9	10.3	9.8	10.9	8.5	10.0	9.5	10.4	8.8	10.4
1982	3.8	6.2	4.1	6.5	4.2	6.7	4.5	7.4	3.6	5.9
1983	3.8	3.2	4.1	3.5	4.5	3.6	4.8	4.0	3.6	2.9
1984	3.9	4.3	3.9	4.3	4.4	4.7	4.7	5.0	3.9	4.1
1985	3.8	3.6	4.1	3.8	4.0	3.9	4.3	4.3	3.5	3.4
1986	1.1	1.9	.5	1.7	3.8	3.9	3.8	4.0	.7	1.5
1987	4.4	3.6	4.6	3.5	4.1	4.1	4.2	4.1	4.3	3.5
1988	4.4	4.1	4.2	4.1	4.7	4.4	4.7	4.4	4.2	3.9
1989	4.6	4.8	4.5	4.6	4.6	4.7	4.4	4.5	4.5	4.6
1990	6.1	5.4	6.3	5.3	5.2	5.2	5.2	5.0	5.9	5.2
1991	3.1	4.2	3.3	4.5	3.9	4.6	4.4	4.9	2.7	3.9
1992	2.9	3.0	3.2	3.5	3.0	3.2	3.3	3.7	2.7	2.8
1993	2.7	3.0	2.7	3.1	3.1	3.2	3.2	3.3	2.6	2.7
1994	2.7	2.6	2.6	2.7	2.6	2.7	2.6	2.8	2.5	2.5
1995	2.5	2.8	2.7	2.8	2.9	3.0	3.0	3.0	2.5	2.7
1996	3.3	3.0	3.1	2.9	2.9	2.8	2.6	2.7	3.3	2.8
1997	1.7	2.3	1.8	2.3	2.1	2.5	2.2	2.4	1.6	2.3
1998	1.6	1.6	1.5	1.4	2.4	2.3	2.4	2.3	1.5	1.5
	Percent change from preceding month									
	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted
1997: Jan	0.3	0.1	0.4	0.3	0.3	0.1	0.3	0.2	0.3	0.1
Feb	.3	.2	.4	.1	.4	.2	.5	.2	.3	.2
Mar	.3	.1	.2	.1	.4	.2	.4	.2	.3	.1
Apr	.1	.1	.1	.1	.2	.2	.2	.4	.1	.1
May	–.1	.1	–.1	.1	0	.2	–.1	.1	–.1	.1
June	.1	.2	.2	.1	–.1	.2	–.1	.2	.1	.1
July	.1	.1	.1	.1	.2	.2	.2	.2	.1	.2
Aug	.2	.2	.1	.2	.2	.1	.1	.1	.2	.2
Sept	.2	.2	.3	.2	.2	.2	.2	.2	.3	.2
Oct	.2	.2	.2	.2	.4	.2	.5	.2	.2	.3
Nov	–.1	.1	–.1	.1	0	.1	0	.1	–.1	.1
Dec	–.1	.1	–.2	.1	0	.2	–.1	.2	–.2	0
1998: Jan	.2	0	.1	–.1	.4	.2	.3	.2	.2	0
Feb	.2	.1	.2	.1	.4	.2	.5	.3	.1	.1
Mar	.2	0	.2	.1	.3	.1	.3	.1	.2	0
Apr	.2	.2	.2	.2	.2	.2	.2	.3	.2	.2
May	.2	.3	.2	.2	.1	.3	.1	.2	.2	.3
June	.1	.1	.1	.1	0	.1	–.1	.1	.1	0
July	.1	.2	.1	.2	.2	.2	.2	.2	.1	.2
Aug	.1	.2	.2	.1	.2	.2	.3	.2	.2	.2
Sept	.1	0	.1	.1	.2	.1	.2	.2	.1	0
Oct	.2	.2	.2	.2	.3	.2	.3	.2	.2	.3
Nov	0	.2	–.1	.1	.1	.1	.1	.2	0	.2
Dec	–.1	.1	–.1	.2	0	.3	0	.3	–.1	.1

[1] Changes from December to December are based on unadjusted indexes.

Note.—See Note, Table B–60.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–64.—*Changes in consumer price indexes for commodities and services, 1929–98*

[For all urban consumers; percent change]

Year	All items (CPI–U)		Commodities				Services				Medical care[2]		Energy[3]	
			Total		Food		Total		Medical care					
	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year
1929	0.6	0	.....	.....	2.5	1.2	.....	.....	.....	.....	.....	.....	.....	.....
1933	.8	–5.1	.....	.....	6.9	–2.8	.....	.....	.....	.....	.....	.....	.....	.....
1939	0	–1.4	–0.7	–2.0	–2.5	–2.5	0	0	1.2	1.2	1.0	0	.....	.....
1940	.7	.7	1.4	.7	2.5	1.7	.8	.8	0	0	0	1.0	.....	.....
1941	9.9	5.0	13.3	6.7	15.7	9.2	2.4	.8	1.2	0	1.0	0	.....	.....
1942	9.0	10.9	12.9	14.5	17.9	17.6	2.3	3.1	3.5	3.5	3.8	2.9	.....	.....
1943	3.0	6.1	4.2	9.3	3.0	11.0	2.3	2.3	5.6	4.5	4.6	4.7	.....	.....
1944	2.3	1.7	2.0	1.0	0	–1.2	2.2	2.2	3.2	4.3	2.6	3.6	.....	.....
1945	2.2	2.3	2.9	3.0	3.5	2.4	.7	1.5	3.1	3.1	2.6	2.6	.....	.....
1946	18.1	8.3	24.8	10.6	31.3	14.5	3.6	1.4	9.0	5.1	8.3	5.0	.....	.....
1947	8.8	14.4	10.3	20.5	11.3	21.7	5.6	4.3	6.4	8.7	6.9	8.0	.....	.....
1948	3.0	8.1	1.7	7.2	–.8	8.3	5.9	6.1	6.9	7.1	5.8	6.7	.....	.....
1949	–2.1	–1.2	–4.1	–2.7	–3.9	–4.2	3.7	5.1	1.6	3.3	1.4	2.8	.....	.....
1950	5.9	1.3	7.8	.7	9.8	1.6	3.6	3.0	4.0	2.4	3.4	2.0	.....	.....
1951	6.0	7.9	5.9	9.0	7.1	11.0	5.2	5.3	5.3	4.7	5.8	5.3	.....	.....
1952	.8	1.9	–.9	1.3	–1.0	1.8	4.4	4.5	5.8	6.7	4.3	5.0	.....	.....
1953	.7	.8	–.3	–.3	–1.1	–1.4	4.2	4.3	3.4	3.5	3.5	3.6	.....	.....
1954	–.7	.7	–1.6	–.9	–1.8	–.4	2.0	3.1	2.6	3.4	2.3	2.9	.....	.....
1955	.4	–.4	–.4	–.9	–.7	–1.4	2.0	2.0	3.2	2.6	3.3	2.2	.....	.....
1956	3.0	1.5	2.6	1.0	2.9	.7	3.4	2.5	3.8	3.8	3.2	3.8	.....	.....
1957	2.9	3.3	2.8	3.2	2.8	3.2	4.2	4.3	4.8	4.3	4.7	4.2	.....	.....
1958	1.8	2.8	1.2	2.1	2.4	4.5	2.7	3.7	4.6	5.3	4.5	4.6	–0.9	0
1959	1.7	.7	.6	0	–1.0	–1.7	3.9	3.1	4.9	4.5	3.8	4.4	4.7	1.9
1960	1.4	1.7	1.2	.9	3.1	1.0	2.5	3.4	3.7	4.3	3.2	3.7	1.3	2.3
1961	.7	1.0	0	.6	–.7	1.3	2.1	1.7	3.5	3.6	3.1	2.7	–1.3	.4
1962	1.3	1.0	.9	.9	1.3	.7	1.6	2.0	2.9	3.5	2.2	2.6	2.2	.4
1963	1.6	1.3	1.5	.9	2.0	1.6	2.4	2.0	2.8	2.9	2.5	2.6	–.9	0
1964	1.0	1.3	.9	1.2	1.3	1.3	1.6	2.0	2.3	2.3	2.1	2.1	0	–.4
1965	1.9	1.6	1.4	1.1	3.5	2.2	2.7	2.3	3.6	3.2	2.8	2.4	1.8	1.8
1966	3.5	2.9	2.5	2.6	4.0	5.0	4.8	3.8	8.3	5.3	6.7	4.4	1.7	1.7
1967	3.0	3.1	2.5	1.9	1.2	.9	4.3	4.3	8.0	8.8	6.3	7.2	1.7	2.1
1968	4.7	4.2	4.0	3.5	4.4	3.5	5.8	5.2	7.1	7.3	6.2	6.0	1.7	1.7
1969	6.2	5.5	5.4	4.7	7.0	5.1	7.7	6.9	7.3	8.2	6.2	6.7	2.9	2.5
1970	5.6	5.7	3.9	4.5	2.3	5.7	8.1	8.0	8.1	7.0	7.4	6.6	4.8	2.8
1971	3.3	4.4	2.8	3.6	4.3	3.1	4.1	5.7	5.4	7.4	4.6	6.2	3.1	3.9
1972	3.4	3.2	3.4	3.0	4.6	4.2	3.4	3.8	3.7	3.5	3.3	3.3	2.6	2.6
1973	8.7	6.2	10.4	7.4	20.3	14.5	6.2	4.4	6.0	4.5	5.3	4.0	17.0	8.1
1974	12.3	11.0	12.8	11.9	12.0	14.3	11.4	9.2	13.2	10.4	12.6	9.3	21.6	29.6
1975	6.9	9.1	6.2	8.8	6.6	8.5	8.2	9.6	10.3	12.6	9.8	12.0	11.4	10.5
1976	4.9	5.8	3.3	4.3	.5	3.0	7.2	8.3	10.8	10.1	8.9	9.5	7.1	7.1
1977	6.7	6.5	6.1	5.8	8.1	6.3	8.0	7.7	9.0	9.9	8.9	9.6	7.2	9.5
1978	9.0	7.6	8.8	7.2	11.8	9.9	9.3	8.6	9.3	8.5	8.8	8.4	7.9	6.3
1979	13.3	11.3	13.0	11.3	10.2	11.0	13.6	11.0	10.5	9.8	10.1	9.2	37.5	25.1
1980	12.5	13.5	11.0	12.3	10.2	8.6	14.2	15.4	10.1	11.3	9.9	11.0	18.0	30.9
1981	8.9	10.3	6.0	8.4	4.3	7.8	13.0	13.1	12.6	10.7	12.5	10.7	11.9	13.6
1982	3.8	6.2	3.6	4.1	3.1	4.1	4.3	9.0	11.2	11.8	11.0	11.6	1.3	1.5
1983	3.8	3.2	2.9	2.9	2.7	2.1	4.8	3.5	6.2	8.7	6.4	8.8	–.5	.7
1984	3.9	4.3	2.7	3.4	3.8	3.8	5.4	5.2	5.8	6.0	6.1	6.2	.2	1.0
1985	3.8	3.6	2.5	2.1	2.6	2.3	5.1	5.1	6.8	6.1	6.8	6.3	1.8	.7
1986	1.1	1.9	–2.0	–.9	3.8	3.2	4.5	5.0	7.9	7.7	7.7	7.5	–19.7	–13.2
1987	4.4	3.6	4.6	3.2	3.5	4.1	4.3	4.2	5.6	6.6	5.8	6.6	8.2	.5
1988	4.4	4.1	3.8	3.5	5.2	4.1	4.8	4.6	6.9	6.4	6.9	6.5	.5	.8
1989	4.6	4.8	4.1	4.7	5.6	5.8	5.1	4.9	8.6	7.7	8.5	7.7	5.1	5.6
1990	6.1	5.4	6.6	5.2	5.3	5.8	5.7	5.5	9.9	9.3	9.6	9.0	18.1	8.3
1991	3.1	4.2	1.2	3.1	1.9	2.9	4.6	5.1	8.0	8.9	7.9	8.7	–7.4	.4
1992	2.9	3.0	2.0	2.0	1.5	1.2	3.6	3.9	7.0	7.6	6.6	7.4	2.0	.5
1993	2.7	3.0	1.5	1.9	2.9	2.2	3.8	3.9	5.9	6.5	5.4	5.9	–1.4	1.2
1994	2.7	2.6	2.3	1.7	2.9	2.4	2.9	3.3	5.4	5.2	4.9	4.8	2.2	.4
1995	2.5	2.8	1.4	1.9	2.1	2.8	3.5	3.4	4.4	5.1	3.9	4.5	–1.3	.6
1996	3.3	3.0	3.2	2.6	4.3	3.3	3.3	3.2	3.2	3.7	3.0	3.5	8.6	4.7
1997	1.7	2.3	.2	1.4	1.5	2.6	2.8	3.0	2.9	2.9	2.8	2.8	–3.4	1.3
1998	1.6	1.6	.4	.1	2.3	2.2	2.6	2.7	3.2	3.2	3.4	3.2	–8.8	–7.7

[1] Changes from December to December are based on unadjusted indexes.

[2] Commodities and services.

[3] Household fuels—gas (piped), electricity, fuel oil, etc.—and motor fuel. Motor oil, coolant, etc. also included through 1982.

Note.—See Note, Table B–60.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–65.—*Producer price indexes by stage of processing, 1954–98*

(1982=100)

Year or month	Finished goods									Total finished consumer goods
	Total finished goods	Consumer foods			Finished goods excluding consumer foods					
		Total	Crude	Processed	Total	Consumer goods			Capital equipment	
						Total	Durable	Nondurable		
1954	30.4	34.2	37.5	34.0	.....	31.1	39.8	26.7	26.7	31.7
1955	30.5	33.4	39.1	32.7	.....	31.3	40.2	26.8	27.4	31.5
1956	31.3	33.3	39.1	32.7	.....	32.1	41.6	27.3	29.5	32.0
1957	32.5	34.4	38.5	34.1	.....	32.9	42.8	27.9	31.3	32.9
1958	33.2	36.5	41.0	36.1	.....	32.9	43.4	27.8	32.1	33.6
1959	33.1	34.8	37.3	34.7	.....	33.3	43.9	28.2	32.7	33.3
1960	33.4	35.5	39.8	35.2	.....	33.5	43.8	28.4	32.8	33.6
1961	33.4	35.4	38.0	35.3	.....	33.4	43.6	28.4	32.9	33.6
1962	33.5	35.7	39.4	35.6	.....	33.4	43.4	28.4	33.0	33.7
1963	33.4	35.3	37.8	35.2	.....	33.4	43.1	28.5	33.1	33.5
1964	33.5	35.4	38.9	35.2	.....	33.3	43.3	28.4	33.4	33.6
1965	34.1	36.8	39.0	36.8	.....	33.6	43.2	28.8	33.8	34.2
1966	35.2	39.2	41.5	39.2	.....	34.1	43.4	29.3	34.6	35.4
1967	35.6	38.5	39.6	38.8	35.0	34.7	44.1	30.0	35.8	35.6
1968	36.6	40.0	42.5	40.0	35.9	35.5	45.1	30.6	37.0	36.5
1969	38.0	42.4	45.9	42.3	36.9	36.3	45.9	31.5	38.3	37.9
1970	39.3	43.8	46.0	43.9	38.2	37.4	47.2	32.5	40.1	39.1
1971	40.5	44.5	45.8	44.7	39.6	38.7	48.9	33.5	41.7	40.2
1972	41.8	46.9	48.0	47.2	40.4	39.4	50.0	34.1	42.8	41.5
1973	45.6	56.5	63.6	55.8	42.0	41.2	60.9	36.1	44.2	46.0
1974	52.6	64.4	71.6	63.9	48.8	48.2	56.5	44.0	50.5	53.1
1975	58.2	69.8	71.7	70.3	54.7	53.2	61.0	48.9	58.2	58.2
1976	60.8	69.6	76.7	69.0	58.1	56.5	63.7	52.4	62.1	60.4
1977	64.7	73.3	79.5	72.7	62.2	60.6	67.4	56.8	66.1	64.3
1978	69.8	79.9	85.8	79.4	66.7	64.9	73.6	60.0	71.3	69.4
1979	77.6	87.3	92.3	86.8	74.6	73.5	80.8	69.3	77.5	77.5
1980	88.0	92.4	93.9	92.3	86.7	87.1	91.0	85.1	85.8	88.6
1981	96.1	97.8	104.4	97.2	95.6	96.1	96.4	95.8	94.6	96.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.6	101.0	102.4	100.9	101.8	101.2	102.8	100.5	102.8	101.3
1984	103.7	105.4	111.4	104.9	103.2	102.2	104.5	101.1	105.2	103.3
1985	104.7	104.6	102.9	104.8	104.6	103.3	106.5	101.7	107.5	103.8
1986	103.2	107.3	105.6	107.4	101.9	98.5	108.9	93.3	109.7	101.4
1987	105.4	109.5	107.1	109.6	104.0	100.7	111.5	94.9	111.7	103.6
1988	108.0	112.6	109.8	112.7	106.5	103.1	113.8	97.3	114.3	106.2
1989	113.6	118.7	119.6	118.6	111.8	108.9	117.6	103.8	118.8	112.1
1990	119.2	124.4	123.0	124.4	117.4	115.3	120.4	111.5	122.9	118.2
1991	121.7	124.1	119.3	124.4	120.9	118.7	123.9	115.0	126.7	120.5
1992	123.2	123.3	107.6	124.4	123.1	120.8	125.7	117.3	129.1	121.7
1993	124.7	125.7	114.4	126.5	124.4	121.7	128.0	117.6	131.4	123.0
1994	125.5	126.8	111.3	127.9	125.1	121.6	130.9	116.2	134.1	123.3
1995	127.9	129.0	118.8	129.8	127.5	124.0	132.7	118.8	136.7	125.6
1996	131.3	133.6	129.2	133.8	130.5	127.6	134.2	123.3	138.3	129.5
1997	131.8	134.5	126.6	135.1	130.9	128.2	133.7	124.3	138.2	130.2
1998	130.6	134.3	127.0	134.8	129.5	126.4	132.8	122.2	137.5	128.9
1997: Jan	132.6	134.1	130.3	134.3	132.1	129.5	134.9	125.7	139.0	131.0
Feb	132.2	133.8	133.2	133.9	131.7	129.0	135.0	124.9	138.9	130.6
Mar	132.1	135.2	140.4	134.8	131.1	128.2	135.0	123.8	138.8	130.4
Apr	131.6	134.3	121.5	135.2	130.7	127.7	134.5	123.2	138.6	129.8
May	131.6	135.2	124.4	135.9	130.5	127.6	133.6	123.5	138.1	130.0
June	131.6	134.0	116.0	135.4	130.9	128.1	133.4	124.4	138.1	130.0
July	131.3	134.0	115.7	135.3	130.4	127.6	132.4	124.1	137.8	129.7
Aug	131.7	134.9	117.3	136.1	130.7	128.1	132.3	124.8	137.7	130.3
Sept	131.8	134.7	123.5	135.5	130.9	128.6	131.4	125.8	137.2	130.5
Oct	132.3	135.1	133.2	135.2	131.3	128.7	134.7	124.6	138.5	130.7
Nov	131.7	134.6	130.3	134.9	130.8	128.0	134.1	123.9	138.3	130.1
Dec	131.1	134.4	133.8	134.4	130.1	127.2	133.4	123.0	137.9	129.4
1998: Jan	130.3	133.1	127.1	133.5	129.4	126.1	133.4	121.5	137.9	128.3
Feb	130.2	133.6	129.4	134.0	129.0	125.6	133.4	120.8	137.9	128.2
Mar	130.1	133.4	130.2	133.7	129.0	125.6	133.2	120.9	137.9	128.1
Apr	130.4	133.8	132.3	133.9	129.2	126.0	133.0	121.5	137.7	128.5
May	130.6	133.6	121.7	134.5	129.6	126.7	132.3	122.8	137.3	128.9
June	130.7	133.8	117.9	135.0	129.7	127.0	131.8	123.4	137.2	129.1
July	131.0	134.7	128.4	135.2	129.7	127.0	132.0	123.3	137.1	129.4
Aug[1]	130.7	135.2	121.7	136.3	129.2	126.4	131.5	122.7	136.8	129.2
Sept	130.6	135.4	126.4	136.2	129.1	126.3	131.0	122.8	136.5	129.2
Oct	131.4	135.5	134.0	135.6	130.0	127.1	134.3	122.5	138.0	129.7
Nov	130.8	134.7	126.3	135.3	129.6	126.3	134.2	121.4	138.1	129.0
Dec	131.0	134.3	128.5	134.8	129.9	126.9	133.8	122.4	137.8	129.3

[1] Data have been revised through August 1998 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

See next page for continuation of table.

TABLE B–65.—*Producer price indexes by stage of processing, 1954–98*—Continued

[1982=100]

Year or month	Intermediate materials, supplies, and components								Crude materials for further processing				
	Total	Foods and feeds[2]	Other	Materials and components		Processed fuels and lubricants	Containers	Supplies	Total	Foodstuffs and feedstuffs	Other		
				For manufacturing	For construction						Total	Fuel	Other
1954	27.9	.....	27.2	29.8	29.1	15.8	28.5	31.7	31.6	42.3	.....	8.9	26.1
1955	28.4	.....	28.0	30.5	30.3	15.8	28.9	31.2	30.4	38.4	.....	8.9	27.5
1956	29.6	.....	29.3	32.0	31.8	16.3	31.0	32.0	30.6	37.6	.....	9.5	28.6
1957	30.3	.....	30.1	32.7	32.0	17.2	32.4	32.3	31.2	39.2	.....	10.1	28.2
1958	30.4	.....	30.1	32.8	32.0	16.2	33.2	33.1	31.9	41.6	.....	10.2	27.1
1959	30.8	.....	30.5	33.3	32.9	16.2	33.0	33.5	31.1	38.8	.....	10.4	28.1
1960	30.9	.....	30.7	33.3	32.7	16.6	33.4	33.3	30.4	38.4	.....	10.5	26.9
1961	30.6	.....	30.3	32.9	32.2	16.8	33.2	33.7	30.2	37.9	.....	10.5	27.2
1962	30.6	.....	30.2	32.7	32.1	16.7	33.6	34.5	30.5	38.6	.....	10.4	27.1
1963	30.7	.....	30.1	32.7	32.2	16.6	33.2	35.0	29.9	37.5	.....	10.5	26.7
1964	30.8	.....	30.3	33.1	32.5	16.2	32.9	34.7	29.6	36.6	.....	10.5	27.2
1965	31.2	.....	30.7	33.6	32.8	16.5	33.5	35.0	31.1	39.2	.....	10.6	27.7
1966	32.0	.....	31.3	34.3	33.6	16.8	34.5	36.5	33.1	42.7	.....	10.9	28.3
1967	32.2	41.8	31.7	34.5	34.0	16.9	35.0	36.8	31.3	40.3	21.1	11.3	26.5
1968	33.0	41.5	32.5	35.3	35.7	16.5	35.9	37.1	31.8	40.9	21.6	11.5	27.1
1969	34.1	42.9	33.6	36.5	37.7	16.6	37.2	37.8	33.9	44.1	22.5	12.0	28.4
1970	35.4	45.6	34.8	38.0	38.3	17.7	39.0	39.7	35.2	45.2	23.8	13.8	29.1
1971	36.8	46.7	36.2	38.9	40.8	19.5	40.8	40.8	36.0	46.1	24.7	15.7	29.4
1972	38.2	49.5	37.7	40.4	43.0	20.1	42.7	42.5	39.9	51.5	27.0	16.8	32.3
1973	42.4	70.3	40.6	44.1	46.5	22.2	45.2	51.7	54.5	72.6	34.3	18.6	42.9
1974	52.5	83.6	50.5	56.0	55.0	33.6	53.3	56.8	61.4	76.4	44.1	24.8	54.5
1975	58.0	81.6	56.6	61.7	60.1	39.4	60.0	61.8	61.6	77.4	43.7	30.6	50.0
1976	60.9	77.4	60.0	64.0	64.1	42.3	63.1	65.8	63.4	76.8	48.2	34.5	54.9
1977	64.9	79.6	64.1	67.4	69.3	47.7	65.9	69.3	65.5	77.5	51.7	42.0	56.3
1978	69.5	84.8	68.6	72.0	76.5	49.9	71.0	72.9	73.4	87.3	57.5	48.2	61.9
1979	78.4	94.5	77.4	80.9	84.2	61.6	79.4	80.2	85.9	100.0	69.6	57.3	75.5
1980	90.3	105.5	89.4	91.7	91.3	85.0	89.1	89.9	95.3	104.6	84.6	69.4	91.8
1981	98.6	104.6	98.2	98.7	97.9	100.6	96.7	96.9	103.0	103.9	101.8	84.8	109.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	100.6	103.6	100.5	101.2	102.8	95.4	100.4	101.8	101.3	101.8	100.7	105.1	98.8
1984	103.1	105.7	103.0	104.1	105.6	95.7	105.9	104.1	103.5	104.7	102.2	105.1	101.0
1985	102.7	97.3	103.0	103.3	107.3	92.8	109.0	104.4	95.8	94.8	96.9	102.7	94.3
1986	99.1	96.2	99.3	102.2	108.1	72.7	110.3	105.6	87.7	93.2	81.6	92.2	76.0
1987	101.5	99.2	101.7	105.3	109.8	73.3	114.5	107.7	93.7	96.2	87.9	84.1	88.5
1988	107.1	109.5	106.9	113.2	116.1	71.2	120.1	113.7	96.0	106.1	85.5	82.1	85.9
1989	112.0	113.8	111.9	118.1	121.3	76.4	125.4	118.1	103.1	111.2	93.4	85.3	95.8
1990	114.5	113.3	114.5	118.7	122.9	85.9	127.7	119.4	108.9	113.1	101.5	84.8	107.3
1991	114.4	111.1	114.6	118.1	124.5	85.3	128.1	121.4	101.2	105.5	94.6	82.9	97.5
1992	114.7	110.7	114.9	117.9	126.5	84.5	127.7	122.7	100.4	105.1	93.5	84.0	94.2
1993	116.2	112.7	116.4	118.9	132.0	84.7	126.4	125.0	102.4	108.4	94.7	87.1	94.1
1994	118.5	114.8	118.7	122.1	136.6	83.1	129.7	127.0	101.6	106.5	94.8	82.4	97.0
1995	124.9	114.8	125.5	130.4	142.1	84.2	148.8	132.1	102.7	105.8	96.8	72.1	105.8
1996	125.7	128.1	125.6	128.6	143.6	96.9	141.1	135.9	113.8	121.5	104.5	92.6	105.7
1997	125.6	125.4	125.7	128.3	146.5	89.3	136.0	135.9	111.1	112.2	106.4	101.3	103.5
1998	123.0	116.1	123.5	126.1	146.8	81.1	140.9	134.8	96.7	103.8	88.3	86.4	84.5
1997: Jan	126.3	124.6	126.4	128.4	145.0	93.4	137.8	135.5	126.3	112.2	131.0	149.8	112.8
Feb	126.1	124.8	126.2	128.4	145.7	92.1	136.9	135.5	116.1	111.0	115.2	116.6	108.1
Mar	125.6	127.2	125.6	128.6	146.2	88.7	136.0	135.8	107.6	114.1	99.4	82.1	104.0
Apr	125.3	127.5	125.2	128.4	146.8	87.0	135.1	136.0	107.9	116.7	98.1	79.6	103.5
May	125.4	128.3	125.3	128.4	147.2	87.2	134.6	136.2	110.4	117.4	101.8	86.3	105.3
June	125.8	126.4	125.7	128.3	147.0	89.8	134.2	136.0	107.1	111.3	100.5	90.4	100.8
July	125.5	124.6	125.6	128.2	147.2	88.9	134.1	135.9	107.1	112.0	99.9	88.0	101.4
Aug	125.8	124.6	125.8	128.3	147.1	90.0	133.4	135.8	107.5	111.6	100.9	88.9	102.3
Sept	126.0	126.0	126.1	128.3	146.8	91.0	135.4	136.2	108.5	110.6	103.2	97.1	101.1
Oct	125.5	122.6	125.6	128.0	146.4	89.1	136.4	135.8	112.7	110.1	110.3	112.9	102.7
Nov	125.5	124.3	125.6	128.2	146.6	88.3	138.1	136.1	114.7	110.4	113.4	122.7	101.7
Dec	125.0	123.5	125.1	128.0	146.4	86.1	139.9	136.0	107.8	109.0	103.2	100.9	98.8
1998: Jan	124.2	118.7	124.5	127.5	146.3	83.3	141.4	135.5	101.7	105.5	95.4	91.1	93.0
Feb	123.8	118.5	124.1	127.3	146.4	81.6	141.9	135.3	100.1	105.1	93.0	85.5	93.0
Mar	123.3	116.9	123.7	127.0	146.7	79.6	141.6	135.5	99.4	106.3	91.0	88.5	87.5
Apr	123.3	115.6	123.8	126.9	147.0	80.1	141.0	135.1	100.3	105.8	92.9	91.8	88.4
May	123.5	116.3	123.9	126.8	146.9	81.7	141.7	134.8	100.5	106.2	92.9	91.8	88.3
June	123.5	115.6	124.0	126.3	146.7	83.1	141.4	134.7	97.6	106.2	88.2	85.7	84.9
July	123.5	116.4	123.9	126.0	147.2	83.2	141.3	135.1	98.1	103.7	90.6	90.7	85.3
Aug[1]	123.2	116.5	123.6	126.0	147.4	82.2	140.7	134.7	94.3	103.3	84.7	84.4	80.1
Sept	123.0	114.8	123.5	125.6	147.2	82.6	140.9	134.3	92.9	100.9	84.1	78.8	83.1
Oct	122.3	114.6	122.7	125.1	146.7	80.5	140.1	134.1	93.9	103.4	83.9	81.6	80.7
Nov	121.8	115.2	122.2	124.7	146.6	78.9	139.6	134.2	92.9	102.4	83.0	83.9	77.4
Dec	121.1	114.2	121.5	124.3	146.6	76.0	138.8	134.3	88.8	97.2	79.8	83.7	72.4

[2] Intermediate materials for food manufacturing and feeds.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–66.—*Producer price indexes by stage of processing, special groups, 1974–98*

[1982=100]

Year or month	Finished goods						Intermediate materials, supplies, and components				Crude materials for further processing			
				Excluding foods and energy										
	Total	Foods	Energy	Total	Capital equipment	Consumer goods excluding foods and energy	Total	Foods and feeds[1]	Energy	Other	Total	Foodstuffs and feedstuffs	Energy	Other
1974	52.6	64.4	26.2	53.6	50.5	55.5	52.5	83.6	33.1	54.0	61.4	76.4	27.8	83.3
1975	58.2	69.8	30.7	59.7	58.2	60.6	58.0	81.6	38.7	60.2	61.6	77.4	33.3	69.3
1976	60.8	69.6	34.3	63.1	62.1	63.7	60.9	77.4	41.5	63.8	63.4	76.8	35.3	80.7
1977	64.7	73.3	39.7	66.9	66.1	67.3	64.9	79.6	46.8	67.6	65.5	77.5	40.4	79.8
1978	69.8	79.9	42.3	71.9	71.3	72.2	69.5	84.8	49.1	72.5	73.4	87.3	45.2	87.8
1979	77.6	87.3	57.1	78.3	77.5	78.8	78.4	94.5	61.1	80.7	85.9	100.0	54.9	106.2
1980	88.0	92.4	85.2	87.1	85.8	87.8	90.3	105.5	84.9	90.3	95.3	104.6	73.1	113.1
1981	96.1	97.8	101.5	94.6	94.6	94.6	98.6	104.6	100.5	97.7	103.0	103.9	97.7	111.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.6	101.0	95.2	103.0	102.8	103.1	100.6	103.6	95.3	101.6	101.3	101.8	98.7	105.3
1984	103.7	105.4	91.2	105.5	105.2	105.7	103.1	105.7	95.5	104.7	103.5	104.7	98.0	111.7
1985	104.7	104.6	87.6	108.1	107.5	108.4	102.7	97.3	92.6	105.2	95.8	94.8	93.3	104.9
1986	103.2	107.3	63.0	110.6	109.7	111.1	99.1	96.2	72.6	104.9	87.7	93.2	71.8	103.1
1987	105.4	109.5	61.8	113.3	111.7	114.2	101.5	99.2	73.0	107.8	93.7	96.2	75.0	115.7
1988	108.0	112.6	59.8	117.0	114.3	118.5	107.1	109.5	70.9	115.2	96.0	106.1	67.7	133.0
1989	113.6	118.7	65.7	122.1	118.8	124.0	112.0	113.3	76.1	120.2	103.1	111.2	75.9	137.9
1990	119.2	124.4	75.0	126.6	122.9	128.8	114.5	113.3	85.5	120.9	108.9	113.1	85.9	136.3
1991	121.7	124.1	78.1	131.1	126.7	133.7	114.4	111.1	85.1	121.4	101.2	105.5	80.4	128.2
1992	123.2	123.3	77.8	134.2	129.1	137.3	114.7	110.7	84.3	122.0	100.4	105.1	78.8	128.4
1993	124.7	125.7	78.0	135.8	131.4	138.5	116.2	112.7	84.6	123.8	102.4	108.4	76.7	140.2
1994	125.5	126.8	77.0	137.1	134.1	139.0	118.5	114.8	83.0	127.1	101.8	106.5	72.1	156.2
1995	127.9	129.0	78.1	140.0	136.7	141.9	124.9	114.8	84.1	135.2	102.7	105.8	69.4	173.6
1996	131.3	133.6	83.2	142.0	138.3	144.3	125.7	128.1	89.8	134.0	113.8	121.5	85.0	155.8
1997	131.8	134.5	83.4	142.4	138.2	145.1	125.6	125.4	89.0	134.2	111.1	112.2	87.3	156.5
1998	130.6	134.3	75.1	143.7	137.5	147.7	123.0	116.1	80.8	133.5	96.7	103.8	68.4	142.1
1997: Jan	132.6	134.1	86.5	142.8	139.0	145.1	126.3	124.6	93.2	134.1	126.3	112.2	119.4	156.6
Feb	132.2	133.8	85.2	142.7	138.9	145.1	126.1	124.8	91.8	134.2	116.1	111.0	98.0	158.9
Mar	132.1	135.2	83.0	142.8	138.8	145.3	125.6	127.2	88.5	134.2	107.6	114.1	77.1	159.6
Apr	131.6	134.3	81.8	142.7	138.6	145.2	125.3	127.5	86.7	134.2	107.9	116.7	76.4	156.4
May	131.6	135.2	82.2	142.3	138.1	144.9	125.4	128.3	87.0	134.2	110.4	117.4	80.8	157.8
June	131.6	134.0	83.6	142.2	138.1	144.8	125.8	126.4	89.5	134.2	107.1	111.3	79.2	157.4
July	131.3	134.0	83.1	141.9	137.8	144.4	125.5	124.6	88.6	134.2	107.1	112.0	79.1	155.6
Aug	131.7	134.9	84.2	141.8	137.7	144.4	125.8	124.6	89.7	134.2	107.5	111.6	79.7	157.5
Sept	131.8	134.7	85.3	141.6	137.2	144.4	126.0	126.0	90.7	134.3	108.5	110.6	83.2	156.0
Oct	132.3	135.1	83.2	143.0	138.5	146.0	125.5	122.6	88.8	134.2	112.7	110.1	92.8	155.0
Nov	131.7	134.6	81.8	142.8	138.3	145.8	125.5	124.5	88.0	134.4	114.7	110.4	97.1	154.3
Dec	131.1	134.4	80.2	142.6	137.9	145.5	125.0	123.5	85.9	134.3	107.8	109.0	84.3	152.5
1998: Jan	130.3	133.1	77.5	142.7	137.9	145.7	124.2	118.7	83.0	134.3	101.7	105.5	74.9	150.5
Feb	130.2	133.6	75.9	142.8	137.9	146.0	123.8	118.5	81.4	134.2	100.1	105.1	71.7	150.7
Mar	130.1	133.4	74.2	143.5	137.9	147.1	123.3	116.9	79.4	134.1	99.4	106.3	69.6	149.2
Apr	130.4	133.8	74.7	143.5	137.7	147.3	123.3	115.6	79.9	134.1	100.3	105.8	72.7	147.6
May	130.6	133.6	76.3	143.4	137.3	147.3	123.5	116.3	81.5	133.9	100.5	106.2	72.7	147.2
June	130.7	133.8	77.2	143.3	137.2	147.2	123.5	115.6	82.8	133.6	97.6	106.2	66.9	146.6
July	131.0	134.7	76.9	143.4	137.1	147.4	123.5	116.4	82.9	133.6	98.1	103.7	70.9	143.8
Aug[2]	130.7	135.2	75.4	143.3	136.8	147.5	123.2	116.5	81.9	133.4	94.3	103.3	64.5	139.8
Sept	130.6	135.4	75.4	143.1	136.5	147.4	123.0	114.8	82.3	133.2	92.9	100.9	64.2	138.1
Oct	131.4	135.5	74.8	144.6	138.0	148.9	122.3	114.6	80.3	132.7	93.9	103.4	65.4	133.7
Nov	130.8	134.7	72.9	144.7	138.1	149.0	121.8	115.2	78.7	132.4	92.9	102.4	65.4	130.0
Dec	131.0	134.3	70.5	146.0	137.8	151.5	121.1	114.2	75.7	132.3	88.8	97.2	62.0	128.1

[1] Intermediate materials for food manufacturing and feeds.

[2] Data have been revised through August 1998 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–67.—*Producer price indexes for major commodity groups, 1954–98*

[1982=100]

Year or month	Farm products and processed foods and feeds			Industrial commodities				
	Total	Farm products	Processed foods and feeds	Total	Textile products and apparel	Hides, skins, leather, and related products	Fuels and related products and power[1]	Chemicals and allied products[1]
1954	38.5	43.2	35.4	27.2	48.2	29.5	13.2	33.8
1955	36.6	40.5	33.8	27.8	48.2	29.4	13.2	33.7
1956	36.4	40.0	33.8	29.1	48.2	31.2	13.6	33.9
1957	37.7	41.1	34.8	29.9	48.3	31.2	14.3	34.6
1958	39.4	42.9	36.5	30.0	47.4	31.6	13.7	34.9
1959	37.6	40.2	35.6	30.5	48.1	35.9	13.7	34.8
1960	37.7	40.1	35.6	30.5	48.6	34.6	13.9	34.8
1961	37.7	39.7	36.2	30.4	47.8	34.9	14.0	34.5
1962	38.1	40.4	36.5	30.4	48.2	35.3	14.0	33.9
1963	37.7	39.6	36.8	30.3	48.2	34.3	13.9	33.5
1964	37.5	39.0	36.7	30.5	48.5	34.4	13.5	33.6
1965	39.0	40.7	38.0	30.9	48.8	35.9	13.8	33.9
1966	41.6	43.7	40.2	31.5	48.9	39.4	14.1	34.0
1967	40.2	41.3	39.8	32.0	48.9	38.1	14.4	34.2
1968	41.1	42.3	40.6	32.8	50.7	39.3	14.3	34.1
1969	43.4	45.0	42.7	33.9	51.8	41.5	14.6	34.2
1970	44.9	45.8	44.6	35.2	52.4	42.0	15.3	35.0
1971	45.8	46.6	45.5	36.5	53.3	43.4	16.6	35.6
1972	49.2	51.6	48.0	37.8	55.5	50.0	17.1	35.6
1973	63.9	72.7	58.9	40.3	60.5	54.5	19.4	37.6
1974	71.3	77.4	68.0	49.2	68.0	55.2	30.1	50.2
1975	74.0	77.0	72.6	54.9	67.4	56.5	35.4	62.0
1976	73.6	78.8	70.8	58.4	72.4	63.9	38.3	64.0
1977	75.9	79.4	74.0	62.5	75.3	68.3	43.6	65.9
1978	83.0	87.7	80.6	67.0	78.1	76.1	46.5	68.0
1979	92.3	99.6	88.5	75.7	82.5	96.1	58.9	76.0
1980	98.3	102.9	95.9	88.0	89.7	94.7	82.8	89.0
1981	101.1	105.2	98.9	97.4	97.6	99.3	100.2	98.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	102.0	102.4	101.8	101.1	100.3	103.2	95.9	100.3
1984	105.5	105.5	105.4	103.3	102.7	109.0	94.8	102.9
1985	100.7	95.1	103.5	103.7	102.9	108.9	91.4	103.7
1986	101.2	92.9	105.4	100.0	103.2	113.0	69.8	102.6
1987	103.7	95.5	107.9	102.6	105.1	120.4	70.2	106.4
1988	110.0	104.9	112.7	106.3	109.2	131.4	66.7	116.3
1989	115.4	110.9	117.8	111.6	112.3	136.3	72.9	123.0
1990	118.6	112.2	121.9	115.8	115.0	141.7	82.3	123.6
1991	116.4	105.7	121.9	116.5	116.3	138.9	81.2	125.6
1992	115.9	103.6	122.1	117.4	117.8	140.4	80.4	125.9
1993	118.4	107.1	124.0	119.0	118.0	143.7	80.0	128.2
1994	119.1	106.3	125.5	120.7	118.3	148.5	77.8	132.1
1995	120.5	107.4	127.0	125.5	120.8	153.7	78.0	142.5
1996	129.7	122.4	133.3	127.3	122.4	150.5	85.8	142.1
1997	127.0	112.9	134.0	127.7	122.6	154.2	86.1	143.6
1998	122.6	104.5	131.6	124.8	122.8	148.0	75.2	144.0
1997: Jan	126.7	113.0	133.4	130.3	122.6	155.3	96.1	143.6
Feb	126.3	113.0	132.9	128.9	122.5	156.2	90.3	143.8
Mar	128.4	116.2	134.5	127.1	122.6	156.8	83.4	143.7
Apr	128.6	116.7	134.5	126.7	122.5	157.5	82.2	143.5
May	129.4	117.4	135.4	127.0	122.6	156.1	83.4	143.5
June	126.8	111.6	134.3	127.2	122.6	153.6	84.5	143.4
July	126.5	111.6	133.9	127.0	122.6	151.6	83.9	143.7
Aug	126.7	111.4	134.3	127.3	122.6	152.2	84.9	143.7
Sept	126.5	111.2	134.1	127.7	122.7	151.5	86.5	143.5
Oct	126.1	111.0	133.5	128.1	122.7	152.6	87.2	143.6
Nov	126.2	111.0	133.7	128.2	122.9	154.3	87.3	143.6
Dec	125.5	110.3	133.1	127.0	123.0	153.1	83.0	143.5
1998: Jan	123.0	106.3	131.3	125.9	123.2	148.8	78.6	143.4
Feb	123.3	106.3	131.7	125.3	123.2	148.4	76.6	143.0
Mar	123.2	107.4	130.9	125.0	123.1	147.1	74.6	145.3
Apr	122.8	106.5	130.8	125.3	123.2	147.5	75.8	144.9
May	123.0	105.8	131.5	125.5	123.2	147.8	77.0	144.9
June	123.0	105.7	131.5	125.1	123.2	150.8	76.4	144.8
July	123.0	105.0	131.9	125.3	123.0	149.2	77.2	144.7
Aug[2]	122.8	102.9	132.6	124.5	122.9	149.7	74.8	144.1
Sept	122.1	101.7	132.2	124.3	122.6	149.5	74.9	143.8
Oct	122.7	104.5	131.7	124.2	122.3	146.4	74.2	143.2
Nov	122.3	102.8	131.9	123.7	122.0	144.7	72.8	143.0
Dec	120.4	99.1	131.0	123.1	122.1	146.6	69.9	142.9

[1] Prices for some items in this grouping are lagged and refer to 1 month earlier than the index month.

[2] Data have been revised through August 1998 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

See next page for continuation of table.

TABLE B–67.—*Producer price indexes for major commodity groups, 1954–98*—Continued

[1982=100]

Year or month	Industrial commodities—Continued									
	Rubber and plastic products	Lumber and wood products	Pulp, paper, and allied products	Metals and metal products	Machinery and equipment	Furniture and household durables	Non-metallic mineral products	Transportation equipment		Miscellaneous products
								Total	Motor vehicles and equipment	
1954	37.5	32.5	29.6	25.5	26.3	44.9	26.6	.....	33.4	31.3
1955	42.4	34.1	30.4	27.2	27.2	45.1	27.3	.....	34.3	31.3
1956	43.0	34.6	32.4	29.6	29.3	46.3	28.5	.....	36.3	31.7
1957	42.8	32.8	33.0	30.2	31.4	47.5	29.6	.....	37.9	32.6
1958	42.8	32.5	33.4	30.0	32.1	47.9	29.9	.....	39.0	33.3
1959	42.6	34.7	33.7	30.6	32.8	48.0	30.3	.....	39.9	33.4
1960	42.7	33.5	34.0	30.6	33.0	47.8	30.4	.....	39.3	33.6
1961	41.1	32.0	33.0	30.5	33.0	47.5	30.5	.....	39.2	33.7
1962	39.9	32.2	33.4	30.2	33.0	47.2	30.5	.....	39.2	33.9
1963	40.1	32.8	33.1	30.3	33.1	46.9	30.3	.....	38.9	34.2
1964	39.6	33.5	33.0	31.1	33.3	47.1	30.4	.....	39.1	34.4
1965	39.7	33.7	33.3	32.0	33.7	46.8	30.4	.....	39.2	34.7
1966	40.5	35.2	34.2	32.8	34.7	47.4	30.7	.....	39.2	35.3
1967	41.4	35.1	34.6	33.2	35.8	48.3	31.2	.....	39.8	36.2
1968	42.8	39.8	35.0	34.0	37.0	49.7	32.4	.....	40.9	37.0
1969	43.6	44.0	36.0	36.0	38.2	50.7	33.6	40.4	41.7	38.1
1970	44.9	39.9	37.5	38.7	40.0	51.9	35.3	41.9	43.3	39.8
1971	45.2	44.7	38.1	39.4	41.4	53.1	38.2	44.2	45.7	40.8
1972	45.3	50.7	39.3	40.9	42.3	53.8	39.4	45.5	47.0	41.5
1973	46.6	62.2	42.3	44.0	43.7	55.7	40.7	46.1	47.4	43.3
1974	56.4	64.5	52.5	57.0	50.0	61.8	47.8	50.3	51.4	48.1
1975	62.2	62.1	59.0	61.5	57.9	67.5	54.4	56.7	57.6	53.4
1976	66.0	72.2	62.1	65.0	61.3	70.3	58.2	60.5	61.2	55.6
1977	69.4	83.0	64.6	69.3	65.2	73.2	62.6	64.6	65.2	59.4
1978	72.4	96.9	67.7	75.3	70.3	77.5	69.6	69.5	70.0	66.7
1979	80.5	105.5	75.9	86.0	76.7	82.8	77.6	75.3	75.8	75.5
1980	90.1	101.5	86.3	95.0	86.0	90.7	88.4	82.9	83.1	93.6
1981	96.4	102.8	94.8	99.6	94.4	95.9	96.7	94.3	94.6	96.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	100.8	107.9	103.3	101.8	102.7	103.4	101.6	102.8	102.2	104.8
1984	102.3	108.0	110.3	104.8	105.1	105.7	105.4	105.2	104.1	107.0
1985	101.9	106.6	113.3	104.4	107.2	107.1	108.6	107.9	106.4	109.4
1986	101.9	107.2	116.1	103.2	108.8	106.2	110.0	110.5	109.1	111.6
1987	103.0	112.8	121.8	107.1	110.4	109.9	110.0	112.5	111.7	114.9
1988	109.3	118.9	130.4	118.7	113.2	113.1	111.2	114.3	113.1	120.2
1989	112.6	126.7	137.8	124.1	117.4	116.9	112.6	117.7	116.2	126.5
1990	113.6	129.7	141.2	122.9	120.7	119.2	114.7	121.5	118.2	134.2
1991	115.1	132.1	142.9	120.2	123.0	121.2	117.2	126.4	122.1	140.8
1992	115.1	146.6	145.2	119.2	123.4	122.2	117.3	130.4	124.9	145.3
1993	116.0	174.0	147.3	119.2	124.0	123.7	120.0	133.7	128.0	145.4
1994	117.6	180.0	152.5	124.8	125.1	126.1	124.2	137.2	131.4	141.9
1995	124.3	178.1	172.2	134.5	126.6	128.2	129.0	139.7	133.0	145.4
1996	123.8	176.1	168.7	131.0	126.5	130.4	131.0	141.7	134.1	147.7
1997	123.2	183.8	167.9	131.8	125.9	130.8	133.2	141.6	132.7	150.9
1998	122.6	179.1	171.7	127.8	124.9	131.3	135.4	141.1	131.4	156.0
1997: Jan	123.2	180.6	167.6	131.0	126.4	130.9	132.3	142.9	134.6	148.7
Feb	123.1	183.4	167.1	131.6	126.3	130.9	132.5	142.8	134.5	148.9
Mar	122.9	184.8	166.5	132.2	126.3	131.0	132.6	142.7	134.3	149.5
Apr	123.2	185.4	166.3	131.8	126.2	130.7	133.3	142.3	133.7	150.6
May	123.3	186.8	166.1	132.2	125.9	130.9	133.3	141.5	132.5	150.9
June	123.2	185.4	166.4	132.5	125.9	130.9	133.4	141.4	132.3	150.9
July	123.3	185.9	166.9	132.0	126.0	130.9	133.4	140.5	131.0	151.0
Aug	123.4	185.0	167.8	132.2	125.7	130.7	133.5	140.5	131.0	151.0
Sept	123.3	183.7	168.7	132.0	125.6	130.7	133.5	139.5	129.6	152.2
Oct	123.1	181.1	169.5	131.7	125.4	130.6	133.6	142.3	133.9	152.5
Nov	123.3	181.8	170.4	131.3	125.5	130.8	133.6	141.9	133.1	152.4
Dec	123.2	181.5	171.1	130.6	125.4	130.8	133.5	141.3	132.2	152.6
1998: Jan	123.1	181.1	172.3	130.1	125.5	130.8	133.6	141.4	132.0	152.3
Feb	123.1	182.2	172.2	130.0	125.3	131.1	133.8	141.5	132.1	153.2
Mar	123.0	182.4	172.1	129.5	125.3	131.2	133.9	141.5	132.0	153.5
Apr	122.9	182.5	172.2	129.6	125.1	131.2	134.9	141.3	131.7	154.7
May	122.7	180.4	172.2	129.2	124.9	131.5	135.2	140.7	130.6	155.6
June	122.5	177.5	171.8	128.7	125.0	131.5	135.6	140.2	129.9	155.6
July	122.4	178.5	171.9	127.9	124.8	131.5	136.0	140.4	130.2	155.4
Aug.[2]	122.3	179.7	171.8	127.2	124.7	131.3	136.2	140.0	129.6	156.3
Sept	122.3	178.0	171.4	126.7	124.7	131.3	136.5	139.3	128.5	156.8
Oct	122.2	175.5	171.4	125.7	124.7	131.1	136.4	142.4	133.4	156.5
Nov	122.0	175.0	171.0	124.8	124.7	131.3	136.7	142.4	133.4	156.2
Dec	122.1	176.1	170.3	124.2	124.5	131.4	136.6	142.2	132.8	166.1

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–68.—*Changes in producer price indexes for finished goods, 1960–98*

[Percent change]

Year or month	Total finished goods		Finished consumer foods		Finished goods excluding consumer foods						Finished energy goods		Finished goods excluding foods and energy	
					Total		Consumer goods		Capital equipment					
	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year
1960	1.8	0.9	5.3	2.0			0.3	0.6	0.3	0.3				
1961	–.6	0	–1.9	–.3			–.3	–.3	0	.3				
1962	.3	.3	.6	.8			0	0	.3	.3				
1963	–.3	–.3	–1.4	–1.1			0	0	.6	.3				
1964	.6	.3	.6	.3			.3	–.3	.9	.9				
1965	3.3	1.8	9.1	4.0			.9	.9	1.5	1.2				
1966	2.0	3.2	1.3	6.5			1.8	1.5	3.8	2.4				
1967	1.7	1.1	–.3	–1.8			2.0	1.8	3.1	3.5				
1968	3.1	2.8	4.6	3.9	2.5	2.6	2.0	2.3	3.0	3.4				
1969	4.9	3.8	8.1	6.0	3.3	2.8	2.8	2.3	4.8	3.5				
1970	2.1	3.4	–2.3	3.3	4.3	3.5	3.8	3.0	4.8	4.7				
1971	3.3	3.1	5.8	1.6	2.0	3.7	2.1	3.5	2.4	4.0				
1972	3.9	3.2	7.9	5.4	2.3	2.0	2.1	1.8	2.1	2.6				
1973	11.7	9.1	22.7	20.5	6.6	4.0	7.5	4.6	5.1	3.3				
1974	18.3	15.4	12.8	14.0	21.1	16.2	20.3	17.0	22.7	14.3			17.7	11.4
1975	6.6	10.6	5.6	8.4	7.2	12.1	6.8	10.4	8.1	15.2	16.3	17.2	6.0	11.4
1976	3.8	4.5	–2.5	–.3	6.2	6.2	6.0	6.2	6.5	6.7	11.6	11.7	5.7	5.7
1977	6.7	6.4	6.9	5.3	6.8	7.1	6.7	7.3	7.2	6.4	12.0	15.7	6.2	6.0
1978	9.3	7.9	11.7	9.0	8.3	7.2	8.5	7.1	8.0	7.9	8.5	6.5	8.4	7.5
1979	12.8	11.2	7.4	9.3	14.8	11.8	17.6	13.3	8.8	8.7	58.1	35.0	9.4	8.9
1980	11.8	13.4	7.5	5.8	13.4	16.2	14.1	18.5	11.4	10.7	27.9	49.2	10.8	11.2
1981	7.1	9.2	1.5	5.8	8.7	10.3	8.6	10.3	9.2	10.3	14.1	19.1	7.7	8.6
1982	3.6	4.1	2.0	2.2	4.2	4.6	4.2	4.1	3.9	5.7	–.1	–1.5	4.9	5.7
1983	.6	1.6	2.3	1.0	0	1.8	–.9	1.2	2.0	2.8	–9.2	–4.8	1.9	3.0
1984	1.7	2.1	3.5	4.4	1.1	1.4	.8	1.0	1.8	2.3	–4.2	–4.2	2.0	2.4
1985	1.8	1.0	.6	–.8	2.2	1.4	2.1	1.1	2.7	2.2	–.2	–3.9	2.7	2.5
1986	–2.3	–1.4	2.8	2.6	–4.0	–2.6	–6.6	–4.6	2.1	2.0	–38.1	–28.1	2.7	2.3
1987	2.2	2.1	–.2	2.1	3.2	2.1	4.1	2.2	1.3	1.8	11.2	–1.9	2.1	2.4
1988	4.0	2.5	5.7	2.8	3.2	2.4	3.1	2.4	3.6	2.3	–3.6	–3.2	4.3	3.3
1989	4.9	5.2	5.2	5.4	4.8	5.0	5.3	5.6	3.8	3.9	9.5	9.9	4.2	4.4
1990	5.7	4.9	2.6	4.8	6.9	5.0	8.7	5.9	3.4	3.5	30.7	14.2	3.5	3.7
1991	–.1	2.1	–1.5	–.2	.3	3.0	–.7	2.9	2.5	3.1	–9.6	4.1	3.1	3.6
1992	1.6	1.2	1.6	–.6	1.6	1.8	1.6	1.8	1.7	1.9	–.3	–.4	2.0	2.4
1993	.2	1.2	2.4	1.9	–.4	1.1	–1.4	.7	1.8	1.8	–4.1	.3	.4	1.2
1994	1.7	.6	1.1	.9	1.9	.6	2.0	–.1	2.0	2.1	3.5	–1.3	1.6	1.0
1995	2.3	1.9	1.9	1.7	2.3	1.9	2.3	2.0	2.2	1.9	1.1	1.4	2.6	2.1
1996	2.8	2.7	3.4	3.6	2.6	2.4	3.7	2.9	.4	1.2	1.7	6.5	.6	1.4
1997	1.2	.4	–.8	.7	1.2	.3	1.5	.5	–.6	–.1	6.4	.2	0	.3
1998	–.1	–.9	–.1	–.1	–.2	–1.1	–.2	–1.4	–.1	–.5	–12.1	–10.0	2.4	.9
	Percent change from preceding month													
	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted
1997: Jan	–0.1	0	–1.0	–0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.9	0.8	0.1	0
Feb	–.3	–.3	–.2	–.4	–.3	–.2	–.4	–.4	–.1	–.1	–1.5	–1.2	–.1	0
Mar	–.1	–.2	1.0	.9	–.5	–.5	–.6	–.6	–.1	0	–2.6	–2.6	.1	.1
Apr	–.4	–.4	–.7	–.4	–.3	–.4	–.4	–.6	–.1	–.1	–1.4	–2.2	–.1	0
May	0	–.2	.7	.4	–.2	–.3	–.1	–.3	–.4	–.1	.5	–1.0	–.3	–.2
June	0	–.2	–.9	–.8	.3	–.1	.4	–.1	0	0	1.7	–.2	–.1	0
July	–.2	–.2	0	–.3	–.4	–.2	–.4	–.2	–.2	–.1	–.6	–.5	–.2	–.1
Aug	.3	.2	.7	–.1	.2	.2	.4	.2	–.1	0	1.3	.9	–.1	.1
Sept	.1	.4	–.1	0	.2	.5	.4	.6	–.4	.2	1.3	1.1	–.1	.4
Oct	.4	0	.3	.7	.3	.2	.1	–.1	.9	–.3	–2.5	–.5	1.0	–.1
Nov	–.5	–.2	–.4	–.3	–.4	–.2	–.5	–.2	–.1	–.1	–1.6	–.4	–.1	–.1
Dec	–.5	–.2	–.1	0	–.5	–.2	–.6	–.2	–.3	–.1	–2.1	–.6	–.1	–.1
1998: Jan	–.6	–.6	–1.0	–.4	–.5	–.6	–.9	–.9	0	–.1	–3.4	–3.7	.1	0
Feb	–.1	–.1	.4	.2	–.3	–.2	–.4	–.3	0	0	–2.1	–1.8	.1	.1
Mar	–.1	–.1	–.1	–.3	0	0	0	0	0	.1	–2.2	–2.3	.5	.5
Apr	.2	.2	.3	.5	.2	.1	.3	.2	–.1	–.1	.7	.1	0	.1
May	.2	.1	–.1	–.4	.3	.2	.6	.2	–.3	–.1	2.1	.8	–.1	0
June	.1	–.2	.1	.1	.1	–.2	.2	–.3	–.1	–.1	1.2	–1.2	–.1	–.1
July	.2	.2	.7	.4	0	.2	0	.2	–.1	.1	–.4	–.1	.1	.2
Aug [2]	–.2	–.3	.4	–.2	–.4	–.4	–.5	–.5	–.2	–.1	–2.0	–2.5	–.1	0
Sept	–.1	.2	.1	.2	–.1	.2	–.1	.2	–.2	.3	0	0	–.1	.3
Oct	.6	.2	.1	.4	.7	.2	.6	.3	1.1	0	–.8	1.2	1.0	.1
Nov	–.5	–.2	–.6	–.5	–.3	–.1	–.6	–.2	.1	.1	–2.5	–1.2	.1	.1
Dec	.2	.4	–.3	–.1	.2	.5	.5	.8	–.2	–.1	–3.3	–2.3	.9	1.0

[1] Changes from December to December are based on unadjusted indexes.

[2] Data have been revised through August 1998 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–69.—*Money stock, liquid assets, and debt measures, 1959–98*

[Averages of daily figures, except debt; billions of dollars, seasonally adjusted]

Year and month	M1	M2	M3	L[1]	Debt[2]	Percent change from year or 6 months earlier[3]			
	Sum of currency, demand deposits, travelers checks, and other checkable deposits (OCDs)	M1 plus retail MMMF balances, savings deposits (including MMDAs), and small time deposits	M2 plus large time deposits, RPs, Eurodollars, and institution-only MMMF balances	M3 plus other liquid assets	Debt of domestic nonfinancial sectors (monthly average of adjacent month-end levels)	M1	M2	M3	Debt
December:									
1959	140.0	297.8	299.7	388.6	687.6	.....	.....	.....	7.6
1960	140.7	312.4	315.2	403.5	723.1	0.5	4.9	5.2	5.2
1961	145.2	335.5	340.8	430.6	765.8	3.2	7.4	8.1	5.9
1962	147.8	362.7	371.3	465.9	818.6	1.8	8.1	8.9	6.9
1963	153.3	393.2	405.9	503.6	873.6	3.7	8.4	9.3	6.7
1964	160.3	424.7	442.4	540.3	937.1	4.6	8.0	9.0	7.3
1965	167.8	459.2	482.1	584.3	1,004.1	4.7	8.1	9.0	7.1
1966	172.0	480.2	505.4	615.1	1,071.3	2.5	4.6	4.8	6.7
1967	183.3	524.8	557.9	667.3	1,145.7	6.6	9.3	10.4	6.9
1968	197.4	566.8	607.2	729.9	1,237.3	7.7	8.0	8.8	8.0
1969	203.9	587.9	615.9	764.4	1,327.4	3.3	3.7	1.4	7.3
1970	214.4	626.5	677.2	814.8	1,416.8	5.1	6.6	10.0	6.7
1971	228.3	710.3	776.0	902.6	1,550.5	6.5	13.4	14.6	9.4
1972	249.2	802.3	886.0	1,022.9	1,706.7	9.2	13.0	14.2	10.1
1973	262.9	855.5	985.0	1,141.5	1,891.8	5.5	6.6	11.2	10.8
1974	274.2	902.4	1,070.0	1,248.5	2,065.4	4.3	5.5	8.6	9.2
1975	287.4	1,017.0	1,172.0	1,366.5	2,252.9	4.8	12.7	9.5	9.1
1976	306.4	1,152.8	1,312.0	1,516.7	2,497.2	6.6	13.4	11.9	10.8
1977	331.3	1,271.5	1,472.5	1,705.4	2,813.3	8.1	10.3	12.2	12.7
1978	358.4	1,368.0	1,646.8	1,911.3	3,202.9	8.2	7.6	11.8	13.8
1979	382.9	1,475.8	1,806.6	2,121.2	3,591.8	6.8	7.9	9.7	12.1
1980	408.9	1,601.1	1,992.2	2,330.0	3,933.9	6.8	8.5	10.3	9.5
1981	436.8	1,756.2	2,240.9	2,601.8	4,345.6	6.8	9.7	12.5	10.5
1982	474.7	1,910.9	2,442.3	2,846.0	4,782.7	8.7	8.8	9.0	10.1
1983	521.2	2,127.7	2,684.9	3,150.7	5,352.1	9.8	11.3	9.9	11.9
1984	552.3	2,312.3	2,979.8	3,518.7	6,148.4	6.0	8.7	11.0	14.9
1985	619.9	2,497.7	3,198.4	3,827.1	7,068.4	12.2	8.0	7.3	15.0
1986	724.4	2,734.0	3,486.4	4,122.4	7,933.1	16.9	9.5	9.0	12.2
1987	749.7	2,832.7	3,672.7	4,340.0	8,673.6	3.5	3.6	5.3	9.3
1988	787.0	2,996.4	3,913.1	4,663.7	9,463.6	5.0	5.8	6.5	9.1
1989	794.2	3,161.0	4,066.3	4,893.2	10,157.0	.9	5.5	3.9	7.3
1990	825.8	3,279.6	4,126.8	4,977.5	10,823.2	4.0	3.8	1.5	6.6
1991	897.3	3,379.9	4,182.1	5,008.0	11,296.1	8.7	3.1	1.3	4.4
1992	1,025.0	3,434.7	4,193.5	5,081.4	11,818.2	14.2	1.6	.3	4.6
1993	1,129.9	3,487.5	4,258.9	5,173.3	12,407.3	10.2	1.5	1.6	5.0
1994	1,150.7	3,503.0	4,333.6	5,315.8	12,998.1	1.8	.4	1.8	4.8
1995	1,128.7	3,651.2	4,595.6	5,702.3	13,695.6	–1.9	4.2	6.0	5.4
1996	1,082.8	3,826.1	4,931.1	6,083.6	14,424.1	–4.1	4.8	7.3	5.3
1997	1,076.0	4,046.4	5,376.8	6,611.3	15,167.3	–.6	5.8	9.0	5.2
1998[p]	1,092.3	4,412.3	5,982.5	.....	.....	1.5	9.0	11.3	.....
1997: Jan	1,080.8	3,840.8	4,956.8	6,109.0	14,464.9	–5.3	4.7	7.3	4.7
Feb	1,078.8	3,853.8	4,993.7	6,156.3	14,522.0	–3.9	4.9	8.2	4.6
Mar	1,075.0	3,869.7	5,028.1	6,200.2	14,582.1	–3.6	5.0	8.3	4.7
Apr	1,068.3	3,891.2	5,071.6	6,256.5	14,653.3	–2.5	5.6	8.6	4.8
May	1,064.3	3,894.5	5,088.2	6,287.2	14,703.4	–3.1	4.7	8.1	4.6
June	1,065.4	3,910.5	5,111.7	6,314.8	14,736.3	–3.2	4.4	7.3	4.3
July	1,065.6	3,925.2	5,152.3	6,348.5	14,798.6	–2.8	4.4	7.9	4.6
Aug	1,071.1	3,957.4	5,198.7	6,406.5	14,867.3	–1.4	5.4	8.2	4.8
Sept	1,063.5	3,979.3	5,237.8	6,446.0	14,935.2	–2.1	5.7	8.3	4.8
Oct	1,061.9	3,999.3	5,274.8	6,481.0	15,010.5	–1.2	5.6	8.0	4.9
Nov	1,069.2	4,023.6	5,326.3	6,548.4	15,088.4	.9	6.6	9.4	5.2
Dec	1,076.0	4,046.4	5,376.8	6,611.3	15,167.3	2.0	7.0	10.4	5.8
1998: Jan	1,073.7	4,071.6	5,423.3	6,683.3	15,240.9	1.5	7.5	10.5	6.0
Feb	1,076.5	4,104.5	5,464.1	6,756.8	15,321.6	1.0	7.4	10.2	6.1
Mar	1,081.1	4,133.2	5,530.1	6,831.7	15,404.4	3.3	7.7	11.2	6.3
Apr	1,080.7	4,166.1	5,579.7	6,863.9	15,481.8	3.5	8.3	11.6	6.3
May	1,077.7	4,175.9	5,613.3	6,887.1	15,555.0	1.6	7.6	10.8	6.2
June	1,074.5	4,193.9	5,644.1	6,928.1	15,628.6	–.3	7.3	9.9	6.1
July	1,071.9	4,210.1	5,652.5	6,926.1	15,710.3	–.3	6.8	8.5	6.2
Aug	1,069.0	4,238.8	5,712.4	6,982.0	15,792.2	–1.4	6.5	9.1	6.1
Sept	1,072.3	4,289.9	5,785.0	7,065.2	15,870.0	–1.6	7.6	9.2	6.0
Oct	1,078.8	4,334.8	5,850.4	.....	15,959.3	–.4	8.1	9.7	6.2
Nov	1,087.8	4,373.6	5,924.9	.....	16,055.3	1.9	9.5	11.1	6.4
Dec[p]	1,092.3	4,412.3	5,982.5	.....	.....	3.3	10.4	12.0	.....

[1] Series for monthly data no longer published by Federal Reserve (FR) and are shown for information only. See FR release H.6 *Money Stock and Debt Measures* dated November 19, 1998.

[2] Consists of outstanding credit market debt of the U.S. Government, State and local governments, and private nonfinancial sectors; data derived from flow of funds accounts.

[3] Annual changes are from December to December; monthly changes are from 6 months earlier at a simple annual rate.

Note.—See Table B–70 for components.

Source: Board of Governors of the Federal Reserve System.

TABLE B–70.—*Components of money stock measures and liquid assets, 1959–98*

[Averages of daily figures; billions of dollars, seasonally adjusted, except as noted]

Year and month	Currency	Travelers checks	Demand deposits	Other checkable deposits (OCDs)	Small denomination time deposits [1]	Savings deposits, including money market deposit accounts (MMDAs) [2]	Money market mutual fund (MMMF) balances	
							Retail	Institution only
December:								
1959	28.8	0.3	110.8	0.0	11.4	146.5	0.0	0.0
1960	28.7	.3	111.6	.0	12.5	159.1	.0	.0
1961	29.3	.4	115.5	.0	14.8	175.5	.0	.0
1962	30.3	.4	117.1	.0	20.1	194.7	.0	.0
1963	32.2	.4	120.6	.1	25.6	214.4	.0	.0
1964	33.9	.5	125.8	.1	29.2	235.3	.0	.0
1965	36.0	.5	131.3	.1	34.5	256.9	.0	.0
1966	38.0	.6	133.4	.1	55.0	253.2	.0	.0
1967	40.0	.6	142.5	.1	77.8	263.7	.0	.0
1968	43.0	.7	153.6	.1	100.6	268.9	.0	.0
1969	45.7	.8	157.3	.2	120.4	263.6	.0	.0
1970	48.6	.9	164.7	.1	151.2	260.9	.0	.0
1971	52.0	1.0	175.1	.2	189.8	292.2	.0	.0
1972	56.2	1.2	191.6	.2	231.7	321.4	.0	.0
1973	60.8	1.4	200.3	.3	265.8	326.7	.1	.0
1974	67.0	1.7	205.1	.4	287.9	338.6	1.7	.2
1975	72.8	2.1	211.6	.9	337.8	388.8	2.8	.5
1976	79.5	2.6	221.6	2.7	390.7	453.2	2.5	.6
1977	87.4	2.9	236.8	4.2	445.5	492.2	2.6	1.0
1978	96.0	3.3	250.6	8.5	520.9	481.9	6.7	3.4
1979	104.8	3.5	257.7	16.8	634.2	423.8	34.8	10.2
1980	115.4	3.9	261.5	28.1	728.5	400.2	63.4	15.9
1981	122.6	4.1	231.4	78.7	823.1	343.9	152.4	38.6
1982	132.5	4.1	234.0	104.1	850.9	400.1	185.2	49.4
1983	146.1	4.7	238.4	132.1	784.0	684.9	137.5	41.4
1984	156.2	5.0	243.7	147.4	888.8	704.7	166.5	62.1
1985	167.9	5.6	265.6	179.8	885.7	815.2	176.8	64.5
1986	180.7	6.1	302.1	235.6	858.4	940.9	210.4	85.1
1987	196.8	6.6	286.8	259.5	921.0	937.4	224.6	92.1
1988	212.3	7.0	286.8	280.9	1,037.1	926.3	245.9	92.5
1989	222.7	6.9	279.3	285.3	1,151.4	893.7	321.7	110.7
1990	246.8	7.8	277.4	293.9	1,172.7	923.8	357.2	138.8
1991	267.3	7.8	289.6	332.5	1,065.3	1,045.2	372.2	186.8
1992	292.9	8.1	339.5	384.4	868.3	1,187.4	354.0	209.8
1993	322.2	7.9	385.2	414.5	782.6	1,219.5	355.6	212.6
1994	354.3	8.5	384.0	403.9	817.4	1,149.9	385.0	203.1
1995	372.4	8.9	391.0	356.4	933.0	1,134.7	454.9	253.9
1996	394.9	8.6	403.6	275.9	948.8	1,271.7	522.8	310.3
1997	425.5	8.2	397.1	245.2	969.6	1,397.5	603.2	376.2
1998 *p*	460.1	8.3	376.7	247.2	953.2	1,604.5	762.4	511.6
1997: Jan	396.9	8.6	402.2	273.2	950.1	1,281.4	528.5	309.9
Feb	399.6	8.6	402.4	268.2	951.1	1,288.9	535.0	319.8
Mar	401.6	8.4	402.4	262.5	951.5	1,300.4	542.8	325.9
Apr	403.5	8.3	397.3	259.1	952.9	1,317.2	552.8	328.5
May	406.0	8.2	396.6	253.4	956.4	1,320.6	553.1	331.8
June	408.0	8.0	398.3	251.1	960.4	1,325.8	559.0	338.3
July	410.5	8.3	398.4	248.4	962.9	1,331.4	565.4	342.7
Aug	412.6	8.3	401.9	248.2	964.4	1,343.0	578.9	348.4
Sept	415.6	8.1	391.9	247.8	965.7	1,359.7	590.3	356.6
Oct	418.3	8.2	389.6	245.8	967.5	1,374.7	595.2	363.4
Nov	421.9	8.1	394.5	244.6	968.4	1,384.5	601.5	365.7
Dec	425.5	8.2	397.1	245.2	969.6	1,397.5	603.2	376.2
1998: Jan	427.5	8.2	392.8	245.2	971.4	1,411.9	614.7	380.8
Feb	431.0	8.1	392.0	245.5	970.8	1,427.6	629.6	384.7
Mar	432.4	8.1	391.2	249.5	969.1	1,441.8	641.2	391.9
Apr	433.7	8.0	388.6	250.5	966.4	1,468.2	650.8	408.8
May	435.5	8.0	387.9	246.3	963.1	1,473.8	661.2	422.0
June	438.2	7.8	383.2	245.4	962.3	1,484.9	672.3	432.1
July	441.3	7.7	378.1	244.8	960.2	1,503.0	675.1	430.2
Aug	443.8	7.8	374.3	243.2	958.3	1,517.8	693.6	443.3
Sept	449.6	7.9	373.7	241.2	958.3	1,537.8	721.5	457.5
Oct	453.4	8.1	374.2	243.1	958.8	1,556.9	740.3	480.7
Nov	456.8	8.2	376.3	246.5	957.3	1,577.7	750.8	498.5
Dec *p*	460.1	8.3	376.7	247.2	953.2	1,604.5	762.4	511.6

[1] Small denomination deposits are those issued in amounts of less than $100,000.

[2] Data prior to 1982 are savings deposits only; MMDA data begin December 1982.

See next page for continuation of table.

TABLE B–70.—*Components of money stock measures and liquid assets, 1959–98*—Continued

[Averages of daily figures; billions of dollars, seasonally adjusted, except as noted]

Year and month	Large denomination time deposits[3]	Overnight and term repurchase agreements (RPs) (net)	Overnight and term Eurodollars (net)	Savings bonds[4]	Short-term Treasury securities[4]	Bankers acceptances[4]	Commercial paper[4]
December:							
1959	1.2	0.0	0.7	46.1	38.6	0.6	3.6
1960	2.0	.0	.8	45.7	36.7	.9	5.1
1961	3.9	.0	1.5	46.5	37.0	1.1	5.2
1962	7.0	.0	1.6	46.9	39.8	1.1	6.8
1963	10.8	.0	1.9	48.1	40.7	1.2	7.7
1964	15.2	.0	2.4	49.0	38.5	1.3	9.1
1965	21.2	.0	1.8	49.6	40.7	1.6	10.2
1966	23.1	.0	2.2	50.2	43.2	1.8	14.4
1967	30.9	.0	2.2	51.2	38.7	1.8	17.8
1968	37.4	.0	2.9	51.8	46.1	2.3	22.5
1969	20.4	4.9	2.7	51.7	59.5	3.3	34.0
1970	45.1	3.0	2.4	52.0	49.0	3.5	33.2
1971	57.6	5.2	2.9	54.3	36.1	3.8	32.3
1972	73.3	6.6	3.9	57.6	40.8	3.5	35.1
1973	111.0	12.8	5.8	60.4	49.4	5.0	41.6
1974	144.7	14.2	8.5	63.3	52.8	12.6	49.7
1975	129.7	14.7	10.2	67.2	68.5	10.7	48.1
1976	118.1	25.1	15.4	71.8	69.9	10.8	52.2
1977	145.2	32.9	21.9	76.4	78.4	14.1	64.1
1978	195.6	44.6	35.1	80.3	81.4	22.0	80.9
1979	223.1	47.7	49.8	79.5	108.2	27.1	99.7
1980	260.2	57.4	57.7	72.3	133.9	32.0	99.5
1981	303.9	65.3	77.0	67.8	149.4	39.9	103.8
1982	324.9	67.4	89.8	68.0	182.9	44.5	108.3
1983	316.5	94.5	104.8	71.1	213.2	45.0	136.5
1984	403.2	105.4	96.9	74.2	261.9	45.4	157.3
1985	422.4	119.9	94.0	79.5	298.2	42.1	208.9
1986	420.2	143.3	103.9	91.8	275.8	37.1	231.2
1987	467.0	172.6	108.2	100.6	249.5	44.5	272.7
1988	518.3	189.0	117.0	109.4	266.8	40.2	334.3
1989	541.5	158.0	95.2	117.5	324.0	40.7	344.6
1990	481.0	138.8	88.7	126.0	334.1	36.2	354.4
1991	416.6	119.5	79.3	137.9	328.8	23.9	335.2
1992	353.5	128.6	66.9	156.6	344.7	21.0	365.7
1993	333.6	158.8	66.3	171.5	340.8	14.9	387.1
1994	363.4	183.3	80.8	180.2	382.9	14.1	405.0
1995	419.6	192.4	88.6	184.7	469.2	11.4	441.3
1996	491.2	194.2	109.2	186.9	454.8	12.4	498.5
1997	572.9	236.1	145.3	186.4	429.6	12.1	606.3
1998[r]	624.4	283.4	150.7				
1997: Jan	496.6	197.2	112.3	186.7	442.8	12.2	510.5
Feb	505.5	200.0	114.7	186.6	444.5	12.8	518.7
Mar	516.8	198.6	116.8	186.5	446.3	13.3	526.1
Apr	528.8	202.4	120.7	186.4	451.2	12.8	534.5
May	531.0	204.1	126.7	186.3	458.6	13.0	541.1
June	538.6	199.8	124.5	186.4	450.8	12.8	553.2
July	550.5	207.4	126.6	186.4	433.5	12.7	563.6
Aug	552.4	210.3	130.2	186.4	445.3	13.0	563.2
Sept	559.7	209.8	132.4	186.4	445.0	12.9	563.9
Oct	560.8	219.5	131.8	186.4	435.2	13.4	571.3
Nov	567.3	233.9	135.7	186.4	441.5	13.0	581.3
Dec	572.9	236.1	145.3	186.4	429.6	12.1	606.3
1998: Jan	577.5	246.9	146.5	186.3	434.4	12.2	627.1
Feb	592.8	241.7	140.3	186.3	455.1	11.2	640.2
Mar	611.6	259.7	133.8	186.2	438.4	11.3	665.7
Apr	610.7	259.7	134.3	186.1	410.7	13.0	674.2
May	615.8	261.4	138.3	186.0	407.8	13.3	665.5
June	623.9	254.3	139.9	186.0	396.6	13.4	686.2
July	610.4	258.3	143.5	186.0	371.2	14.6	701.6
Aug	616.4	265.5	148.3	185.9	374.3	14.8	697.7
Sept	616.1	272.1	149.4	186.0	371.2	14.0	715.0
Oct	614.6	267.5	152.8				
Nov	621.4	277.8	153.6				
Dec[r]	624.4	283.4	150.7				

[3] Large denomination deposits are those issued in amounts of more than $100,000.
[4] See footnote 1, Table B–69.

Note.—See also Table B–69.

Source: Board of Governors of the Federal Reserve System.

TABLE B–71.—*Aggregate reserves of depository institutions and monetary base, 1959–98*

[Averages of daily figures [1]; millions of dollars; seasonally adjusted, except as noted]

Year and month	Adjusted for changes in reserve requirements [2]					Borrowings of depository institutions from the Federal Reserve, NSA		
	Reserves of depository institutions				Monetary base			
	Total	Nonborrowed	Nonborrowed plus extended credit	Required		Total	Seasonal	Extended credit
December:								
1959	11,109	10,168	10,168	10,603	40,880	941	.....	.....
1960	11,247	11,172	11,172	10,503	40,977	74	.....	.....
1961	11,499	11,366	11,366	10,915	41,853	133	.....	.....
1962	11,604	11,344	11,344	11,033	42,957	260	.....	.....
1963	11,730	11,397	11,397	11,239	45,003	332	.....	.....
1964	12,011	11,747	11,747	11,605	47,161	264	.....	.....
1965	12,316	11,872	11,872	11,892	49,620	444	.....	.....
1966	12,223	11,690	11,690	11,884	51,565	532	.....	.....
1967	13,180	12,952	12,952	12,805	54,579	228	.....	.....
1968	13,767	13,021	13,021	13,341	58,357	746	.....	.....
1969	14,168	13,049	13,049	13,882	61,569	1,119	.....	.....
1970	14,558	14,225	14,225	14,309	65,013	332	.....	.....
1971	15,230	15,104	15,104	15,049	69,108	126	.....	.....
1972	16,645	15,595	15,595	16,361	75,167	1,050	.....	.....
1973	17,021	15,723	15,723	16,717	81,073	1,298	41	.....
1974	17,550	16,823	16,970	17,292	87,535	727	32	147
1975	17,822	17,692	17,704	17,556	93,887	130	14	12
1976	18,388	18,335	18,335	18,115	101,515	53	13	.....
1977	18,990	18,420	18,420	18,800	110,324	569	55	.....
1978	19,753	18,885	18,885	19,521	120,445	868	135	.....
1979	20,720	19,248	19,248	20,279	131,143	1,473	82	.....
1980	22,015	20,325	20,328	21,501	142,004	1,690	116	3
1981	22,443	21,807	21,956	22,124	149,021	636	54	148
1982	23,600	22,966	23,152	23,100	160,127	634	33	186
1983	25,367	24,593	24,595	24,806	175,467	774	96	2
1984	26,836	23,649	26,254	25,981	187,328	3,186	113	2,604
1985	31,426	30,108	30,607	30,389	203,492	1,318	56	499
1986	39,025	38,198	38,501	37,655	223,609	827	38	303
1987	38,975	38,198	38,681	37,929	239,814	777	93	483
1988	40,435	38,719	39,963	39,386	257,043	1,716	130	1,244
1989	40,501	40,236	40,256	39,581	267,764	265	84	20
1990	41,789	41,464	41,486	40,125	293,247	326	76	23
1991	45,535	45,343	45,344	44,556	317,446	192	38	1
1992	54,358	54,234	54,235	53,202	351,030	124	18	1
1993	60,524	60,442	60,442	59,461	386,531	82	31	0
1994	59,406	59,197	59,197	58,238	418,121	209	100	0
1995	56,399	56,141	56,141	55,121	434,168	257	40	0
1996	50,083	49,928	49,928	48,660	452,383	155	68	0
1997	46,669	46,345	46,345	44,986	480,152	324	79	0
1998 *p*	44,910	44,793	44,793	43,318	513,952	117	15	0
1997: Jan	49,615	49,570	49,570	48,392	454,044	45	19	0
Feb	48,854	48,812	48,812	47,823	455,538	42	21	0
Mar	48,056	47,900	47,900	46,896	456,882	156	37	0
Apr	47,336	47,075	47,075	46,326	458,104	261	88	0
May	46,750	46,507	46,507	45,510	459,474	243	173	0
June	46,909	46,542	46,542	45,591	461,784	367	243	0
July	46,722	46,313	46,313	45,516	464,432	409	330	0
Aug	46,932	46,335	46,335	45,686	466,704	598	385	0
Sept	46,240	45,802	45,802	44,944	469,406	438	368	0
Oct	45,958	45,688	45,688	44,562	471,983	270	227	0
Nov	46,301	46,148	46,148	44,693	476,178	153	115	0
Dec	46,669	46,345	46,345	44,986	480,152	324	79	0
1998: Jan	46,501	46,291	46,291	44,721	482,837	210	18	0
Feb	45,722	45,664	45,664	44,198	484,226	58	12	0
Mar	46,045	46,004	46,004	44,731	485,860	41	22	0
Apr	45,959	45,887	45,887	44,614	487,203	72	41	0
May	45,591	45,438	45,438	44,441	489,102	153	94	0
June	45,391	45,140	45,140	43,771	491,634	251	159	0
July	44,813	44,556	44,556	43,449	493,698	258	215	0
Aug	44,997	44,726	44,726	43,484	497,375	271	242	0
Sept	44,585	44,334	44,334	42,901	502,168	251	178	0
Oct	44,385	44,211	44,211	42,813	506,082	174	107	0
Nov	44,571	44,488	44,488	42,947	509,936	84	37	0
Dec *p*	44,910	44,793	44,793	43,318	513,952	117	15	0

[1] Data are prorated averages of biweekly (maintenance period) averages of daily figures.

[2] Aggregate reserves incorporate adjustments for discontinuities associated with regulatory changes to reserve requirements. For details on aggregate reserves series see *Federal Reserve Bulletin*.

Note.—NSA indicates data are not seasonally adjusted.

Source: Board of Governors of the Federal Reserve System.

TABLE B–72.—*Bank credit at all commercial banks, 1973–98*

[Monthly average; billions of dollars, seasonally adjusted [1]]

Year and month	Total bank credit	Securities in bank credit			Loans and leases in bank credit							
		Total securities	U.S. Government securities	Other securities	Total loans and leases [2]	Commercial and industrial	Real estate			Consumer	Security	Other
							Total	Revolving home equity	Other			
December:												
1973	660.4	180.5	90.5	90.1	479.9	167.3	123.3	.....	123.3	100.9	10.9	77.5
1974	725.4	185.6	88.7	96.9	539.8	198.7	136.7	.....	136.7	104.8	10.4	89.2
1975	758.8	221.8	119.8	102.1	537.0	188.9	141.9	.....	141.9	107.4	12.4	86.4
1976	818.5	245.3	140.1	105.2	573.2	191.5	156.0	.....	156.0	119.0	17.3	89.5
1977	905.7	253.4	140.4	112.9	652.4	211.3	183.8	.....	183.8	141.4	20.3	95.5
1978	1,021.6	259.1	141.7	117.8	762.2	246.2	220.9	.....	220.9	168.3	19.0	107.9
1979	1,133.3	266.6	148.1	118.5	866.7	285.6	252.6	.....	252.6	188.8	17.1	122.6
1980	1,226.4	300.8	174.3	126.4	925.7	317.1	272.9	.....	272.9	182.1	16.8	136.8
1981	1,319.0	313.8	182.4	131.4	1,005.2	356.0	294.5	.....	294.5	185.0	19.6	150.1
1982	1,424.0	339.1	204.5	134.6	1,085.0	397.5	309.1	.....	309.1	190.9	22.9	164.4
1983	1,573.7	402.9	261.7	141.2	1,170.8	415.7	337.5	.....	337.5	215.7	25.5	172.4
1984	1,743.5	406.8	263.1	143.7	1,336.7	480.1	383.4	.....	383.4	256.6	32.7	182.8
1985	1,925.2	453.8	272.7	181.0	1,471.4	505.7	432.3	.....	432.3	296.6	40.8	196.0
1986	2,106.5	506.5	310.4	196.2	1,599.9	541.9	500.8	.....	500.8	316.1	36.7	204.4
1987	2,252.0	534.0	338.6	195.4	1,718.0	570.5	590.7	31.0	559.7	330.2	34.9	191.7
1988	2,434.9	561.4	366.7	194.7	1,873.5	607.0	674.1	40.1	634.0	357.8	40.9	193.7
1989	2,609.5	584.4	400.2	184.3	2,025.1	638.8	769.3	50.3	718.9	378.4	41.8	196.8
1990	2,754.7	634.1	456.0	178.1	2,120.6	641.2	855.4	62.4	793.0	383.9	45.6	194.5
1991	2,859.3	745.9	566.0	179.9	2,113.3	619.8	880.0	69.7	810.3	366.9	55.0	191.7
1992	2,956.7	841.4	664.2	177.2	2,115.3	596.2	901.1	73.5	827.6	359.2	65.2	193.6
1993	3,115.4	915.2	730.1	185.2	2,200.1	586.4	941.4	73.1	868.3	391.1	89.6	191.6
1994	3,320.3	940.8	721.9	218.9	2,379.6	646.0	1,003.4	75.3	928.1	451.9	78.8	199.4
1995	3,604.9	986.1	702.9	283.2	2,618.7	718.0	1,081.0	79.1	1,001.9	495.3	85.7	238.7
1996	3,752.7	971.2	697.3	273.9	2,781.6	783.4	1,131.8	84.8	1,047.0	515.9	77.9	272.5
1997	4,095.0	1,081.9	747.3	334.6	3,013.1	853.9	1,230.7	97.7	1,133.0	506.5	97.6	324.4
1998	4,552.1	1,235.8	792.9	443.0	3,316.3	945.0	1,323.9	97.4	1,226.5	503.7	151.4	392.3
1997: Jan	3,789.3	988.1	698.1	290.0	2,801.2	786.8	1,138.7	85.0	1,053.7	517.4	81.1	277.1
Feb	3,830.1	1,005.9	698.3	307.6	2,824.1	795.7	1,144.3	85.9	1,058.4	518.4	83.4	282.4
Mar	3,851.8	1,007.3	704.1	303.2	2,844.6	799.0	1,156.2	87.4	1,068.8	516.3	86.3	286.2
Apr	3,888.2	1,018.3	711.9	306.3	2,869.9	806.1	1,170.4	89.3	1,081.1	514.5	89.7	285.3
May	3,906.6	1,011.3	714.6	296.7	2,895.3	811.9	1,180.7	90.6	1,090.1	518.3	89.8	294.6
June	3,922.6	1,007.2	716.9	290.3	2,915.4	816.8	1,190.3	92.3	1,098.0	518.2	92.7	297.5
July	3,960.7	1,029.3	718.2	311.1	2,931.4	820.0	1,196.6	93.2	1,103.5	518.0	94.2	302.5
Aug	3,981.6	1,032.3	714.9	317.4	2,949.3	828.7	1,204.6	94.3	1,110.3	518.0	94.7	303.3
Sept	4,006.3	1,031.3	724.5	311.8	2,970.0	838.6	1,214.1	95.4	1,118.7	515.2	95.9	306.3
Oct	4,030.8	1,043.7	731.5	312.2	2,987.0	842.1	1,218.2	95.9	1,122.3	507.6	104.3	314.8
Nov	4,073.7	1,075.1	742.8	332.3	2,998.6	845.5	1,226.7	96.8	1,129.9	506.9	99.7	319.8
Dec	4,095.0	1,081.9	747.3	334.6	3,013.1	853.9	1,230.7	97.7	1,133.0	506.5	97.6	324.4
1998: Jan	4,155.3	1,110.4	762.9	347.5	3,045.0	864.2	1,234.2	98.0	1,136.2	503.5	117.6	325.6
Feb	4,185.0	1,112.9	769.7	343.2	3,072.2	872.8	1,249.1	98.1	1,151.0	501.6	119.3	329.3
Mar	4,223.5	1,129.8	780.8	348.9	3,093.7	875.3	1,261.5	98.3	1,163.2	501.8	118.7	336.4
Apr	4,221.3	1,109.9	764.9	345.0	3,111.4	873.6	1,269.6	98.4	1,171.2	505.4	117.9	344.9
May	4,250.6	1,126.1	772.1	354.0	3,124.5	878.6	1,274.0	98.0	1,176.1	506.2	123.1	342.6
June	4,263.7	1,121.6	756.9	364.7	3,142.1	887.0	1,274.4	97.8	1,176.7	503.2	130.2	347.3
July	4,280.5	1,130.4	760.7	369.8	3,150.1	897.7	1,271.6	97.5	1,174.1	496.3	131.9	352.5
Aug	4,341.6	1,156.5	771.2	385.3	3,185.2	906.1	1,280.9	97.6	1,183.3	495.0	137.7	365.3
Sept	4,398.9	1,177.1	767.4	409.7	3,221.9	918.3	1,285.2	97.9	1,185.3	497.9	142.9	379.6
Oct	4,488.8	1,217.8	774.3	443.5	3,271.0	938.8	1,287.6	97.0	1,190.6	497.5	158.9	388.2
Nov	4,529.7	1,226.6	790.7	435.9	3,303.0	947.0	1,309.7	97.4	1,212.3	500.0	152.5	393.9
Dec	4,552.1	1,235.8	792.9	443.0	3,316.3	945.0	1,323.9	97.4	1,226.5	503.7	151.4	392.3

[1] Data are prorated averages of Wednesday values for domestically chartered commercial banks, branches and agencies of foreign banks, New York State investment companies (through September 1996), and Edge Act and agreement corporations.

[2] Excludes Federal funds sold to, reverse repurchase agreements (RPs) with, and loans to commercial banks in the United States.

Source: Board of Governors of the Federal Reserve System.

TABLE B–73.—*Bond yields and interest rates, 1929–98*

[Percent per annum]

Year and month	U.S. Treasury securities					Corporate bonds (Moody's)		High-grade municipal bonds (Standard & Poor's)	New-home mortgage yields[3]	Commercial paper, 6 months[4]	Prime rate charged by banks[5]	Discount rate, Federal Reserve Bank of New York[5]	Federal funds rate[6]
	Bills (new issues)[1]		Constant maturities[2]										
	3-month	6-month	3-year	10-year	30-year	Aaa	Baa						
1929						4.73	5.90	4.27		5.85	5.50–6.00	5.16	
1933	0.515					4.49	7.76	4.71		1.73	1.50–4.00	2.56	
1939	.023					3.01	4.96	2.76		.59	1.50	1.00	
1940	.014					2.84	4.75	2.50		.56	1.50	1.00	
1941	.103					2.77	4.33	2.10		.53	1.50	1.00	
1942	.326					2.83	4.28	2.36		.66	1.50	[7] 1.00	
1943	.373					2.73	3.91	2.06		.69	1.50	[7] 1.00	
1944	.375					2.72	3.61	1.86		.73	1.50	[7] 1.00	
1945	.375					2.62	3.29	1.67		.75	1.50	[7] 1.00	
1946	.375					2.53	3.05	1.64		.81	1.50	[7] 1.00	
1947	.594					2.61	3.24	2.01		1.03	1.50–1.75	1.00	
1948	1.040					2.82	3.47	2.40		1.44	1.75–2.00	1.34	
1949	1.102					2.66	3.42	2.21		1.49	2.00	1.50	
1950	1.218					2.62	3.24	1.98		1.45	2.07	1.59	
1951	1.552					2.86	3.41	2.00		2.16	2.56	1.75	
1952	1.766					2.96	3.52	2.19		2.33	3.00	1.75	
1953	1.931		2.47	2.85		3.20	3.74	2.72		2.52	3.17	1.99	
1954	.953		1.63	2.40		2.90	3.51	2.37		1.58	3.05	1.60	
1955	1.753		2.47	2.82		3.06	3.53	2.53		2.18	3.16	1.89	1.78
1956	2.658		3.19	3.18		3.36	3.88	2.93		3.31	3.77	2.77	2.73
1957	3.267		3.98	3.65		3.89	4.71	3.60		3.81	4.20	3.12	3.11
1958	1.839		2.84	3.32		3.79	4.73	3.56		2.46	3.83	2.15	1.57
1959	3.405	3.832	4.46	4.33		4.38	5.05	3.95		3.97	4.48	3.36	3.30
1960	2.928	3.247	3.98	4.12		4.41	5.19	3.73		3.85	4.82	3.53	3.22
1961	2.378	2.605	3.54	3.88		4.35	5.08	3.46		2.97	4.50	3.00	1.96
1962	2.778	2.908	3.47	3.95		4.33	5.02	3.18		3.26	4.50	3.00	2.68
1963	3.157	3.253	3.67	4.00		4.26	4.86	3.23	5.89	3.55	4.50	3.23	3.18
1964	3.549	3.686	4.03	4.19		4.40	4.83	3.22	5.83	3.97	4.50	3.55	3.50
1965	3.954	4.055	4.22	4.28		4.49	4.87	3.27	5.81	4.38	4.54	4.04	4.07
1966	4.881	5.082	5.23	4.92		5.13	5.67	3.82	6.25	5.55	5.63	4.50	5.11
1967	4.321	4.630	5.03	5.07		5.51	6.23	3.98	6.46	5.10	5.61	4.19	4.22
1968	5.339	5.470	5.68	5.65		6.18	6.94	4.51	6.97	5.90	6.30	5.16	5.66
1969	6.677	6.853	7.02	6.67		7.03	7.81	5.81	7.81	7.83	7.96	5.87	8.20
1970	6.458	6.562	7.29	7.35		8.04	9.11	6.51	8.45	7.71	7.91	5.95	7.18
1971	4.348	4.511	5.65	6.16		7.39	8.56	5.70	7.74	5.11	5.72	4.88	4.66
1972	4.071	4.466	5.72	6.21		7.21	8.16	5.27	7.60	4.73	5.25	4.50	4.43
1973	7.041	7.178	6.95	6.84		7.44	8.24	5.18	7.96	8.15	8.03	6.44	8.73
1974	7.886	7.926	7.82	7.56		8.57	9.50	6.09	8.92	9.84	10.81	7.83	10.50
1975	5.838	6.122	7.49	7.99		8.83	10.61	6.89	9.00	6.32	7.86	6.25	5.82
1976	4.989	5.266	6.77	7.61		8.43	9.75	6.49	9.00	5.34	6.84	5.50	5.04
1977	5.265	5.510	6.69	7.42	7.75	8.02	8.97	5.56	9.02	5.61	6.83	5.46	5.54
1978	7.221	7.572	8.29	8.41	8.49	8.73	9.49	5.90	9.56	7.99	9.06	7.46	7.93
1979	10.041	10.017	9.71	9.44	9.28	9.63	10.69	6.39	10.78	10.91	12.67	10.28	11.19
1980	11.506	11.374	11.55	11.46	11.27	11.94	13.67	8.51	12.66	12.29	15.27	11.77	13.36
1981	14.029	13.776	14.44	13.91	13.45	14.17	16.04	11.23	14.70	14.76	18.87	13.42	16.38
1982	10.686	11.084	12.92	13.00	12.76	13.79	16.11	11.57	15.14	11.89	14.86	11.02	12.26
1983	8.63	8.75	10.45	11.10	11.18	12.04	13.55	9.47	12.57	8.89	10.79	8.50	9.09
1984	9.58	9.80	11.89	12.44	12.41	12.71	14.19	10.15	12.38	10.16	12.04	8.80	10.23
1985	7.48	7.66	9.64	10.62	10.79	11.37	12.72	9.18	11.55	8.01	9.93	7.69	8.10
1986	5.98	6.03	7.06	7.68	7.78	9.02	10.39	7.38	10.17	6.39	8.33	6.33	6.81
1987	5.82	6.05	7.68	8.39	8.59	9.38	10.58	7.73	9.31	6.85	8.21	5.66	6.66
1988	6.69	6.92	8.26	8.85	8.96	9.71	10.83	7.76	9.19	7.68	9.32	6.20	7.57
1989	8.12	8.04	8.55	8.49	8.45	9.26	10.18	7.24	10.13	8.80	10.87	6.93	9.21
1990	7.51	7.47	8.26	8.55	8.61	9.32	10.36	7.25	10.05	7.95	10.01	6.98	8.10
1991	5.42	5.49	6.82	7.86	8.14	8.77	9.80	6.89	9.32	5.85	8.46	5.45	5.69
1992	3.45	3.57	5.30	7.01	7.67	8.14	8.98	6.41	8.24	3.80	6.25	3.25	3.52
1993	3.02	3.14	4.44	5.87	6.59	7.22	7.93	5.63	7.20	3.30	6.00	3.00	3.02
1994	4.29	4.66	6.27	7.09	7.37	7.96	8.62	6.19	7.49	4.93	7.15	3.60	4.21
1995	5.51	5.59	6.25	6.57	6.88	7.59	8.20	5.95	7.87	5.93	8.83	5.21	5.83
1996	5.02	5.09	5.99	6.44	6.71	7.37	8.05	5.75	7.80	5.42	8.27	5.02	5.30
1997	5.07	5.18	6.10	6.35	6.61	7.26	7.86	5.55	7.71	5.62	8.44	5.00	5.46
1998	4.81	4.85	5.14	5.26	5.58	6.53	7.22	5.12	7.07		8.35	4.92	5.35

[1] Rate on new issues within period; bank-discount basis.

[2] Yields on the more actively traded issues adjusted to constant maturities by the Department of the Treasury.

[3] Effective rate (in the primary market) on conventional mortgages, reflecting fees and charges as well as contract rate and assuming, on the average, repayment at end of 10 years. Rates beginning January 1973 not strictly comparable with prior rates.

[4] Bank-discount basis; prior to November 1979, data are for 4–6 months paper. Series no longer published by Federal Reserve (FR). See FR release H.15 *Selected Interest Rates* dated May 12, 1997.

[5] For monthly data, high and low for the period. Prime rate for 1929–33 and 1947–48 are ranges of the rate in effect during the period.

[6] Since July 19, 1975, the daily effective rate is an average of the rates on a given day weighted by the volume of transactions at these rates. Prior to that date, the daily effective rate was the rate considered most representative of the day's transactions, usually the one at which most transactions occurred.

[7] From October 30, 1942, to April 24, 1946, a preferential rate of 0.50 percent was in effect for advances secured by Government securities maturing in 1 year or less.

See next page for continuation of table.

TABLE B–73.—*Bond yields and interest rates, 1929–98*—Continued

[Percent per annum]

Year and month	U.S. Treasury securities					Corporate bonds (Moody's)		High-grade municipal bonds (Standard & Poor's)	New-home mortgage yields[2]	Commercial paper, 6 months[4]	Prime rate charged by banks[5]	Discount rate, Federal Reserve Bank of New York[5]	Federal funds rate[6]
	Bills (new issues)[1]		Constant maturities[2]										
	3-month	6-month	3-year	10-year	30-year	Aaa	Baa				High-low	High-low	
1994:													
Jan	3.02	3.19	4.48	5.75	6.29	6.92	7.65	5.30	6.95	3.30	6.00–6.00	3.00–3.00	3.05
Feb	3.21	3.38	4.83	5.97	6.49	7.08	7.76	5.44	6.85	3.62	6.00–6.00	3.00–3.00	3.25
Mar	3.52	3.79	5.40	6.48	6.91	7.48	8.13	5.93	6.99	4.08	6.25–6.00	3.00–3.00	3.34
Apr	3.74	4.13	5.99	6.97	7.27	7.88	8.52	6.28	7.31	4.40	6.75–6.25	3.00–3.00	3.56
May	4.19	4.64	6.34	7.18	7.41	7.99	8.62	6.26	7.43	4.92	7.25–6.75	3.50–3.00	4.01
June	4.18	4.58	6.27	7.10	7.40	7.97	8.65	6.14	7.62	4.86	7.25–7.25	3.50–3.50	4.25
July	4.39	4.81	6.48	7.30	7.58	8.11	8.80	6.19	7.71	5.13	7.25–7.25	3.50–3.50	4.26
Aug	4.50	4.91	6.50	7.24	7.49	8.07	8.74	6.19	7.67	5.19	7.75–7.25	4.00–3.50	4.47
Sept	4.64	5.02	6.69	7.46	7.71	8.34	8.98	6.33	7.70	5.32	7.75–7.75	4.00–4.00	4.73
Oct	4.96	5.39	7.04	7.74	7.94	8.57	9.20	6.50	7.76	5.70	7.75–7.75	4.00–4.00	4.76
Nov	5.25	5.69	7.44	7.96	8.09	8.68	9.32	6.46	7.81	6.01	8.50–7.75	4.75–4.00	5.29
Dec	5.64	6.21	7.71	7.81	7.87	8.46	9.11	6.76	7.83	6.62	8.50–8.50	4.75–4.75	5.45
1995:													
Jan	5.81	6.31	7.66	7.78	7.85	8.46	9.08	6.53	8.18	6.63	8.50–8.50	4.75–4.75	5.53
Feb	5.80	6.10	7.25	7.47	7.65	8.26	8.85	6.24	8.28	6.38	9.00–8.50	5.25–4.75	5.92
Mar	5.73	5.91	6.89	7.20	7.45	8.12	8.70	6.10	8.21	6.30	9.00–9.00	5.25–5.25	5.98
Apr	5.67	5.80	6.68	7.06	7.36	8.03	8.60	6.01	8.15	6.19	9.00–9.00	5.25–5.25	6.05
May	5.70	5.73	6.27	6.63	6.95	7.65	8.20	5.50	7.99	6.07	9.00–9.00	5.25–5.25	6.01
June	5.50	5.46	5.80	6.17	6.57	7.30	7.90	5.83	7.73	5.79	9.00–9.00	5.25–5.25	6.00
July	5.47	5.41	5.89	6.28	6.72	7.41	8.04	5.98	7.78	5.68	9.00–8.75	5.25–5.25	5.85
Aug	5.41	5.40	6.10	6.49	6.86	7.57	8.19	6.07	7.75	5.75	8.75–8.75	5.25–5.25	5.74
Sept	5.26	5.28	5.89	6.20	6.55	7.32	7.93	5.88	7.69	5.66	8.75–8.75	5.25–5.25	5.80
Oct	5.30	5.34	5.77	6.04	6.37	7.12	7.75	5.77	7.58	5.71	8.75–8.75	5.25–5.25	5.76
Nov	5.35	5.29	5.57	5.93	6.26	7.02	7.68	5.61	7.46	5.59	8.75–8.75	5.25–5.25	5.80
Dec	5.16	5.15	5.39	5.71	6.06	6.82	7.49	5.42	7.40	5.43	8.75–8.50	5.25–5.25	5.60
1996:													
Jan	5.02	4.97	5.20	5.65	6.05	6.81	7.47	5.42	7.32	5.23	8.50–8.50	5.25–5.00	5.56
Feb	4.87	4.79	5.14	5.81	6.24	6.99	7.63	5.45	7.20	4.99	8.50–8.25	5.00–5.00	5.22
Mar	4.96	4.96	5.79	6.27	6.60	7.35	8.03	5.82	7.49	5.26	8.25–8.25	5.00–5.00	5.31
Apr	4.99	5.08	6.11	6.51	6.79	7.50	8.19	5.93	7.76	5.38	8.25–8.25	5.00–5.00	5.22
May	5.02	5.12	6.27	6.74	6.93	7.62	8.30	5.98	7.80	5.42	8.25–8.25	5.00–5.00	5.24
June	5.11	5.26	6.49	6.91	7.06	7.71	8.40	6.03	8.05	5.57	8.25–8.25	5.00–5.00	5.27
July	5.17	5.32	6.45	6.87	7.03	7.65	8.35	5.91	8.01	5.67	8.25–8.25	5.00–5.00	5.40
Aug	5.09	5.17	6.21	6.64	6.84	7.46	8.18	5.72	8.08	5.51	8.25–8.25	5.00–5.00	5.22
Sept	5.15	5.29	6.41	6.83	7.03	7.66	8.35	5.86	7.98	5.66	8.25–8.25	5.00–5.00	5.30
Oct	5.01	5.12	6.08	6.53	6.81	7.39	8.07	5.71	7.95	5.45	8.25–8.25	5.00–5.00	5.24
Nov	5.03	5.07	5.82	6.20	6.48	7.10	7.79	5.59	7.80	5.40	8.25–8.25	5.00–5.00	5.31
Dec	4.87	5.02	5.91	6.30	6.55	7.20	7.89	5.62	7.79	5.44	8.25–8.25	5.00–5.00	5.29
1997:													
Jan	5.05	5.11	6.16	6.58	6.83	7.42	8.09	5.72	7.81	5.48	8.25–8.25	5.00–5.00	5.25
Feb	5.00	5.05	6.03	6.42	6.69	7.31	7.94	5.63	7.78	5.42	8.25–8.25	5.00–5.00	5.19
Mar	5.14	5.24	6.38	6.69	6.93	7.55	8.18	5.78	7.88	5.61	8.50–8.25	5.00–5.00	5.39
Apr	5.17	5.35	6.61	6.89	7.09	7.73	8.34	5.88	8.03	5.79	8.50–8.50	5.00–5.00	5.51
May	5.13	5.35	6.42	6.71	6.94	7.58	8.20	5.71	8.01	5.78	8.50–8.50	5.00–5.00	5.50
June	4.92	5.14	6.24	6.49	6.77	7.41	8.02	5.60	7.95	5.69	8.50–8.50	5.00–5.00	5.56
July	5.07	5.12	6.00	6.22	6.51	7.14	7.78	5.41	7.78	5.60	8.50–8.50	5.00–5.00	5.52
Aug	5.13	5.17	6.06	6.30	6.58	7.22	7.82	5.47	7.59	5.59	8.50–8.50	5.00–5.00	5.54
Sept	4.97	5.11	5.98	6.21	6.50	7.15	7.70	5.38	7.61	.....	8.50–8.50	5.00–5.00	5.54
Oct	4.95	5.09	5.84	6.03	6.33	7.00	7.57	5.37	7.54	.....	8.50–8.50	5.00–5.00	5.50
Nov	5.15	5.17	5.76	5.88	6.11	6.87	7.42	5.38	7.40	.....	8.50–8.50	5.00–5.00	5.52
Dec	5.16	5.24	5.74	5.81	5.99	6.76	7.32	5.22	7.40	.....	8.50–8.50	5.00–5.00	5.50
1998:													
Jan	5.09	5.07	5.38	5.54	5.81	6.61	7.19	5.07	7.27	.....	5.00–5.00	8.50–8.50	5.56
Feb	5.11	5.07	5.43	5.57	5.89	6.67	7.25	5.16	7.24	.....	5.00–5.00	8.50–8.50	5.51
Mar	5.03	5.04	5.57	5.65	5.95	6.71	7.32	5.30	7.17	.....	5.00–5.00	8.50–8.50	5.49
Apr	5.00	5.08	5.58	5.64	5.92	6.69	7.33	5.33	7.19	.....	5.00–5.00	8.50–8.50	5.45
May	5.03	5.15	5.61	5.65	5.93	6.69	7.30	5.21	7.18	.....	5.00–5.00	8.50–8.50	5.49
June	4.99	5.12	5.52	5.50	5.70	6.53	7.13	5.13	7.16	.....	5.00–5.00	8.50–8.50	5.56
July	4.96	5.03	5.47	5.46	5.68	6.55	7.15	5.18	7.13	.....	5.00–5.00	8.50–8.50	5.54
Aug	4.94	4.97	5.24	5.34	5.54	6.52	7.14	5.13	7.09	.....	5.00–5.00	8.50–8.50	5.55
Sept	4.74	4.75	4.62	4.81	5.20	6.40	7.09	4.98	6.98	.....	5.00–5.00	8.50–8.25	5.51
Oct	4.08	4.15	4.18	4.53	5.01	6.37	7.18	4.90	6.85	.....	5.00–4.75	8.25–8.00	5.07
Nov	4.44	4.43	4.57	4.83	5.25	6.41	7.34	5.06	6.80	.....	4.75–4.50	8.00–7.75	4.83
Dec	4.42	4.43	4.48	4.65	5.06	6.22	7.23	5.00	6.94	.....	4.50–4.50	7.75–7.75	4.68

Sources: Department of the Treasury, Board of Governors of the Federal Reserve System, Federal Housing Finance Board, Moody's Investors Service, and Standard & Poor's Corporation.

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TABLE B–74.—*Credit market borrowing, 1989–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Item	1989	1990	1991	1992	1993	1994	1995	1996	1997
NONFINANCIAL SECTORS									
DOMESTIC	686.3	655.1	467.5	522.5	588.0	571.5	700.4	726.7	769.6
FEDERAL GOVERNMENT	146.4	246.9	278.2	304.0	256.1	155.9	144.4	145.0	23.1
Treasury securities	144.7	238.7	292.0	303.8	248.3	155.7	142.9	146.6	23.2
Budget agency securities and mortgages	1.6	8.2	−13.8	.2	7.8	.2	1.5	−1.6	−.1
NONFEDERAL, BY INSTRUMENT	540.0	408.2	189.2	218.5	331.9	415.6	555.9	581.7	746.4
Commercial paper	21.4	9.7	−18.4	8.6	10.0	21.4	18.1	−.9	13.7
Municipal securities and loans	57.9	49.3	87.8	30.5	74.8	−35.9	−48.2	2.6	71.4
Corporate bonds	73.6	47.1	78.8	67.6	75.2	23.3	73.3	72.5	90.7
Bank loans n.e.c.	28.2	4.3	−42.3	−12.0	6.4	75.2	102.3	66.2	107.3
Other loans and advances	55.7	61.8	−55.4	5.7	−18.9	34.0	67.2	33.8	68.7
Mortgages	263.7	224.1	149.4	114.1	123.7	172.7	204.3	318.8	342.1
Home	235.4	222.5	172.4	168.6	156.2	178.2	173.9	265.3	268.3
Multifamily residential	10.6	−1.4	−3.0	−10.3	−6.8	−1.3	8.0	12.7	11.5
Commercial	20.1	4.6	−20.3	−44.7	−26.7	−6.4	20.8	38.3	59.1
Farm	−2.5	−1.6	.3	.5	1.0	2.2	1.6	2.6	3.3
Consumer credit	44.2	11.9	−10.7	3.9	60.7	124.9	138.9	[illegible]	52.5
NONFEDERAL, BY SECTOR	540.0	408.2	189.2	218.5	331.9	415.6	555.9	581.7	746.4
Household sector	259.0	249.0	169.1	163.3	207.8	311.0	343.7	370.3	355.6
Nonfinancial business	230.9	112.1	−65.2	31.1	57.9	150.9	263.7	218.2	334.8
Corporate	176.0	115.5	−51.6	47.1	52.1	143.3	236.8	171.4	265.0
Nonfarm noncorporate	54.3	−4.5	−15.6	−16.4	3.2	3.3	23.9	42.0	63.5
Farm	.6	1.0	2.0	.5	2.6	4.4	2.9	4.8	6.4
State and local governments	50.1	47.2	85.4	24.1	66.2	−46.2	−51.5	−6.8	56.1
FOREIGN BORROWING IN THE UNITED STATES	10.2	23.9	15.1	24.1	69.8	−14.0	71.1	76.9	56.9
Commercial paper	13.1	12.3	6.8	5.6	−9.6	−26.1	13.5	11.3	3.7
Bonds	4.9	21.4	15.0	16.8	82.9	12.2	49.7	55.8	46.7
Bank loans n.e.c.	−.1	−2.9	3.1	2.3	.7	1.4	8.5	9.1	8.5
Other loans and advances	−7.6	−7.0	−9.8	−.6	−4.2	−1.5	−.5	.8	−2.0
NONFINANCIAL DOMESTIC AND FOREIGN BORROWING	696.5	678.9	482.6	546.6	657.8	557.5	771.5	803.6	826.5
FINANCIAL SECTORS									
BY INSTRUMENT	225.0	213.4	170.9	244.0	294.4	468.4	456.4	556.2	644.3
Federal Government related	149.5	167.4	145.7	155.8	165.3	287.5	204.1	231.5	212.8
Government-sponsored enterprises securities	25.2	17.1	9.2	40.3	[illegible]	176.9	105.9	90.4	98.4
Mortgage pool securities	124.3	150.3	136.6	115.6	84.7	115.4	98.2	141.1	114.4
U.S. Government loans	.0	−.1	−.0	−.0	.0	−4.8	0	0	0
Private financial sectors	75.5	46.1	25.1	88.2	129.1	180.9	252.3	324.7	431.5
Open market paper	31.3	8.6	−32.3	−1.1	−5.5	40.5	42.7	92.2	166.7
Corporate bonds	40.8	56.8	86.9	88.6	123.1	121.8	196.7	179.7	207.9
Bank loans n.e.c.	13.5	4.0	7.3	.7	−14.4	−13.7	3.9	16.9	13.6
Other loans and advances	−10.5	−23.9	−37.3	−.6	22.4	22.6	3.4	27.5	35.6
Mortgages	.3	.6	.5	.6	3.6	9.8	5.6	7.9	7.8
BY SECTOR	225.0	213.4	170.9	244.0	294.4	468.4	456.4	556.2	644.3
Commercial banking	5.2	−26.8	−13.2	10.0	13.4	20.1	22.5	13.0	46.1
Savings institutions	−15.0	−30.9	−44.7	−7.0	11.3	12.8	2.6	25.5	19.7
Government-sponsored enterprises	25.2	17.0	9.1	40.2	80.6	172.1	105.9	90.4	98.4
Federally related mortgage pools	124.3	150.3	136.6	115.6	84.7	115.4	98.2	141.1	114.4
Asset-backed securities issuers	27.7	61.6	68.5	61.1	83.6	72.9	141.1	153.6	204.4
Finance companies	27.4	23.1	16.0	−3.1	−1.4	48.7	50.2	45.9	48.7
Funding corporations	12.5	16.8	−4.0	16.2	6.3	23.1	34.9	64.1	80.7
Other [1]	17.7	2.3	2.5	11.1	15.9	3.3	1.0	22.6	31.9
ALL SECTORS									
BY INSTRUMENT	921.5	892.4	653.5	790.6	952.2	1,025.9	1,227.8	1,359.8	1,470.7
Open market paper	65.9	30.7	−44.0	13.1	−5.1	35.7	74.3	102.6	184.1
U.S. Government securities	295.8	414.4	424.0	459.8	421.4	448.1	348.5	376.5	235.9
Municipal securities and loans	52.9	49.3	87.8	30.5	74.8	−35.9	−48.2	2.6	71.4
Corporate and foreign bonds	119.5	125.2	180.7	172.9	281.2	157.3	319.6	308.0	345.4
Bank loans n.e.c.	41.5	5.5	−31.8	−8.9	−7.2	62.9	114.7	92.1	129.3
Other loans and advances	37.7	30.8	−102.4	4.6	−.8	50.3	70.2	62.5	102.2
Mortgages	264.1	224.7	149.9	114.7	127.3	182.5	209.9	326.8	349.9
Consumer credit	44.2	11.9	−10.7	3.9	60.7	124.9	138.9	[illegible]	52.5

[1] Credit unions, life insurance companies, mortgage companies, real estate investment trusts, and brokers and dealers.

See next page for continuation of table.

TABLE B–74.—*Credit market borrowing, 1989–98*—Continued

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Item	1997				1998		
	I	II	III	IV	I	II	III
NONFINANCIAL SECTORS							
DOMESTIC	675.9	617.7	829.6	955.1	922.1	938.0	930.6
FEDERAL GOVERNMENT	64.9	–43.5	30.3	40.8	–30.0	–70.9	–136.5
Treasury securities	66.3	–43.8	31.2	39.0	–27.6	–69.4	–136.1
Budget agency securities and mortgages	–1.4	.2	–.9	1.7	–2.4	–1.4	–.4
NONFEDERAL, BY INSTRUMENT	611.0	661.2	799.2	914.3	952.1	1,008.9	1,067.0
Commercial paper	7.2	20.3	14.5	12.8	53.9	6.6	58.4
Municipal securities and loans	34.1	59.6	88.9	103.2	116.7	100.1	84.1
Corporate bonds	79.4	86.1	122.9	74.4	157.2	140.8	88.0
Bank loans n.e.c.	140.7	118.1	31.6	138.7	55.8	157.3	142.6
Other loans and advances	34.2	20.8	78.0	141.6	83.2	37.9	78.0
Mortgages	253.0	296.7	413.0	405.8	428.1	481.2	497.8
Home	218.2	211.4	334.2	309.3	324.1	360.5	365.8
Multifamily residential	4.1	12.9	6.6	22.3	19.9	22.6	22.9
Commercial	28.6	68.4	67.9	71.6	80.0	91.9	103.9
Farm	2.1	4.1	4.3	2.6	4.0	6.2	5.3
Consumer credit	62.5	59.5	50.3	37.8	57.3	65.1	88.2
NONFEDERAL, BY SECTOR	611.0	661.2	799.2	914.3	952.1	1,008.9	1,067.0
Household sector	334.9	329.7	362.9	394.9	437.2	469.8	472.7
Nonfinancial business	259.2	289.1	363.8	427.1	420.6	460.2	521.6
Corporate	206.4	214.5	291.5	347.5	331.4	354.6	404.7
Nonfarm noncorporate	47.8	68.6	66.8	70.6	81.4	98.7	110.2
Farm	4.9	6.0	5.5	9.0	7.9	7.4	6.7
State and local governments	16.9	42.5	72.6	92.3	94.3	78.9	72.7
FOREIGN BORROWING IN THE UNITED STATES	31.2	61.7	92.5	42.3	68.5	86.6	–27.0
Commercial paper	15.5	10.4	–11.6	.7	56.0	–24.8	6.9
Bonds	15.5	38.7	100.3	32.4	14.3	107.5	–34.8
Bank loans n.e.c.	–.7	11.5	7.3	15.7	5.2	8.4	3.5
Other loans and advances	.9	1.2	–3.5	–6.5	–7.0	–4.4	–2.6
NONFINANCIAL DOMESTIC AND FOREIGN BORROWING	707.1	679.3	922.1	997.4	990.6	1,024.7	903.5
FINANCIAL SECTORS							
BY INSTRUMENT	336.5	657.1	595.5	987.9	839.8	1,012.9	992.8
Federal Government related	105.7	286.2	161.0	298.1	227.3	413.4	561.6
Government-sponsored enterprises securities	–8.9	198.1	46.4	157.9	142.5	166.4	294.0
Mortgage pool securities	114.6	88.1	114.6	140.3	84.8	247.0	267.5
U.S. Government loans	0	0	0	0	0	0	0
Private financial sectors	230.9	370.9	434.5	689.8	612.5	599.5	431.2
Open market paper	176.6	77.0	168.8	244.2	237.4	134.8	141.0
Corporate bonds	61.7	229.4	194.8	345.8	315.5	373.5	158.8
Bank loans n.e.c.	6.5	–6.0	23.2	30.7	18.9	7.2	41.1
Other loans and advances	–20.1	63.0	37.5	61.7	32.7	76.0	82.3
Mortgages	6.2	7.5	10.1	7.3	8.0	8.0	8.0
BY SECTOR	336.5	657.1	595.5	987.9	839.8	1,012.9	992.8
Commercial banking	14.4	76.4	32.5	61.0	83.5	80.0	78.2
Savings institutions	–16.8	31.9	22.3	41.7	10.6	31.2	63.7
Government-sponsored enterprises	–8.9	198.1	46.4	157.9	142.5	166.4	294.0
Federally related mortgage pools	114.6	88.1	114.6	140.3	84.8	247.0	267.5
Asset-backed securities issuers	85.8	120.7	226.2	385.1	254.4	367.2	272.4
Finance companies	5.6	120.5	8.9	59.6	80.1	101.8	–13.6
Funding corporations	129.7	–21.5	115.4	99.2	142.8	–28.6	–19.1
Other[1]	12.2	42.9	29.1	43.2	41.0	48.0	49.6
ALL SECTORS							
BY INSTRUMENT	1,043.7	1,336.4	1,517.6	1,985.3	1,830.3	2,037.6	1,896.3
Open market paper	199.3	107.7	171.7	257.7	347.3	116.6	236.2
U.S. Government securities	170.6	242.6	191.3	338.9	197.3	342.5	425.1
Municipal securities and loans	34.1	59.6	88.9	103.2	116.7	100.1	84.1
Corporate and foreign bonds	156.6	354.2	418.1	452.7	487.0	641.8	212.0
Bank loans n.e.c.	146.5	123.6	62.2	185.1	79.9	172.9	187.2
Other loans and advances	15.0	85.0	112.0	196.8	108.9	109.4	157.6
Mortgages	259.2	304.2	423.1	413.1	436.1	489.2	505.8
Consumer credit	62.5	59.5	50.3	37.8	57.3	65.1	88.2

Source: Board of Governors of the Federal Reserve System.

TABLE B–75.—*Mortgage debt outstanding by type of property and of financing, 1945–98*

[Billions of dollars]

End of year or quarter	All properties	Farm properties	Nonfarm properties				Nonfarm properties by type of mortgage					
							Government underwritten				Conventional[2]	
								1- to 4-family houses				
			Total	1- to 4-family houses	Multifamily properties	Commercial properties	Total[1]	Total	FHA insured	VA guaranteed	Total	1- to 4-family houses
1945	35.5	4.8	30.8	18.6	5.7	6.4	4.3	4.3	4.1	0.2	26.5	14.3
1946	41.8	4.9	36.9	23.0	6.1	7.7	6.3	6.1	3.7	2.4	30.6	16.9
1947	48.9	5.1	43.9	28.2	6.6	9.1	9.8	9.3	3.8	5.5	34.1	18.9
1948	56.2	5.3	50.9	33.3	7.5	10.2	13.6	12.5	5.3	7.2	37.3	20.8
1949	62.7	5.6	57.1	37.6	8.6	10.8	17.1	15.0	6.9	8.1	40.0	22.6
1950	72.8	6.1	66.7	45.2	10.1	11.5	22.1	18.8	8.5	10.5	44.7	26.3
1951	82.3	6.7	75.6	51.7	11.5	12.5	26.6	22.9	9.7	13.2	49.1	28.9
1952	91.4	7.2	84.2	58.5	12.3	13.4	29.3	25.4	10.8	14.6	54.9	33.2
1953	101.3	7.7	93.6	66.1	12.9	14.5	32.1	28.1	12.0	16.1	61.5	38.0
1954	113.7	8.2	105.4	75.7	13.5	16.3	36.2	32.1	12.8	19.3	69.3	43.6
1955	129.9	9.0	120.9	88.2	14.3	18.3	42.9	38.9	14.3	24.6	78.0	49.3
1956	144.5	9.8	134.6	99.0	14.9	20.7	47.8	43.9	15.5	28.4	86.8	55.1
1957	156.5	10.4	146.1	107.6	15.3	23.2	51.6	47.2	16.5	30.7	94.6	60.4
1958	171.8	11.1	160.7	117.7	16.8	26.1	55.2	50.1	19.7	30.4	105.5	67.6
1959	190.8	12.1	178.7	130.9	18.7	29.2	59.3	53.8	23.8	30.0	119.4	77.0
1960	207.5	12.8	194.7	141.9	20.3	32.4	62.3	56.4	26.7	29.7	132.3	85.5
1961	228.0	13.9	214.1	154.6	23.0	36.5	65.6	59.1	29.5	29.6	148.5	95.5
1962	251.4	15.2	236.2	169.3	25.8	41.1	69.4	62.2	32.3	29.9	166.9	107.1
1963	278.5	16.8	261.7	186.4	29.0	46.2	73.4	65.9	35.0	30.9	188.2	120.5
1964	305.9	18.9	287.0	203.4	33.6	50.0	77.2	69.2	38.3	30.9	209.8	134.1
1965	333.3	21.2	312.1	220.5	37.2	54.5	81.2	73.1	42.0	31.1	231.0	147.4
1966	356.5	23.1	333.4	232.9	40.3	60.1	84.1	76.1	44.8	31.3	249.3	156.9
1967	381.2	25.1	356.1	247.3	43.9	64.8	88.2	79.9	47.4	32.5	267.9	167.4
1968	411.1	27.5	383.5	264.8	47.3	71.4	93.4	84.4	50.6	33.8	290.1	180.4
1969	441.6	29.4	412.2	283.2	52.2	76.9	100.2	90.2	54.5	35.7	312.0	193.0
1970	473.7	30.5	443.2	297.4	60.1	85.6	109.2	97.3	59.9	37.3	333.9	200.2
1971	524.2	32.4	491.8	325.9	70.1	95.9	120.7	105.2	65.7	39.5	371.1	220.7
1972	597.4	35.4	562.0	366.5	82.8	112.7	131.1	113.0	68.2	44.7	430.9	253.5
1973	672.6	39.8	632.8	407.9	93.1	131.7	135.0	116.2	66.2	50.0	497.7	291.7
1974	732.5	44.9	687.5	440.7	100.0	146.9	140.2	121.3	65.1	56.2	547.3	319.4
1975	791.9	49.9	742.0	482.1	100.6	159.3	147.0	127.7	66.1	61.6	595.0	354.3
1976	878.6	55.4	823.2	546.3	105.7	171.2	154.1	133.5	66.5	67.0	669.0	412.8
1977	1,010.3	63.9	946.4	642.7	114.0	189.7	161.7	141.6	68.0	73.6	784.6	501.0
1978	1,163.0	72.8	1,090.2	753.5	124.9	211.8	176.4	153.4	71.4	82.0	913.9	600.2
1979	1,328.4	86.8	1,241.7	870.5	134.9	236.3	199.0	172.9	81.0	92.0	1,042.7	697.6
1980	1,464.8	97.5	1,367.3	970.2	141.0	256.1	225.1	195.2	93.6	101.6	1,142.2	775.0
1981	1,590.2	107.2	1,483.0	1,050.3	138.9	293.7	238.9	207.6	101.3	106.2	1,244.1	842.8
1982	1,675.6	111.3	1,564.3	1,097.4	140.8	326.1	248.9	217.9	108.0	109.9	1,315.4	879.5
1983	1,868.3	113.7	1,755.6	1,220.4	154.0	381.1	279.8	248.9	127.4	121.4	1,475.7	971.6
1984	2,113.1	112.4	2,000.7	1,361.6	177.0	462.2	294.8	261.9	136.7	125.1	1,705.8	1,095.7
1985	2,377.2	105.9	2,271.4	1,536.9	205.2	529.2	328.3	288.8	153.0	135.8	1,943.0	1,248.1
1986	2,661.5	95.2	2,566.3	1,742.9	238.4	585.0	370.5	328.6	185.5	143.1	2,195.8	1,414.3
1987	2,998.9	87.7	2,911.2	1,977.9	260.8	672.4	431.4	387.9	235.5	152.4	2,479.7	1,590.0
1988	3,315.6	83.0	3,232.6	2,219.1	277.5	736.0	459.7	414.2	258.8	155.4	2,773.0	1,804.9
1989	3,586.1	80.5	3,505.7	2,461.1	288.3	756.3	486.8	440.1	282.8	157.3	3,018.8	2,021.0
1990	3,800.8	78.9	3,721.9	2,674.2	286.9	760.7	517.9	470.9	310.9	160.0	3,203.9	2,203.3
1991	3,954.2	79.2	3,875.0	2,850.2	284.1	740.8	537.2	493.3	330.6	162.7	3,337.8	2,356.9
1992	4,068.5	79.7	3,989.2	3,018.7	274.0	696.4	533.3	489.8	326.0	163.8	3,455.9	2,529.0
1993	4,209.6	80.7	4,128.9	3,177.0	269.8	682.1	513.4	469.5	303.2	166.2	3,615.5	2,707.5
1994	4,392.8	83.0	4,309.8	3,355.5	271.7	682.6	559.3	514.2	336.8	177.3	3,750.5	2,841.3
1995	4,608.3	84.8	4,523.5	3,529.6	282.2	711.7	584.3	537.1	352.3	184.7	3,939.2	2,992.5
1996	4,932.2	87.3	4,844.9	3,761.1	300.9	782.9	623.2	574.1	379.2	194.9	4,221.7	3,187.0
1997	5,275.4	90.2	5,185.2	4,029.1	314.1	841.9	659.4	608.4	405.7	202.7	4,525.8	3,420.7
1996: I	4,688.8	85.2	4,603.5	3,596.4	284.7	722.5	592.3	544.3	357.2	187.2	4,011.2	3,052.1
II	4,774.5	86.4	4,688.0	3,632.5	292.6	763.0	599.5	551.9	362.5	189.3	4,088.6	3,080.6
III	4,853.6	86.9	4,766.7	3,703.2	296.8	766.6	611.0	562.4	370.3	192.0	4,155.7	3,140.9
IV	4,932.2	87.3	4,844.9	3,761.1	300.9	782.9	623.2	574.1	379.2	194.9	4,221.7	3,187.0
1997: I	4,984.7	87.7	4,897.1	3,805.7	302.1	789.2	631.0	581.4	384.3	197.0	4,266.1	3,224.3
II	5,062.1	88.7	4,973.4	3,860.6	305.9	806.9	640.7	590.3	391.6	198.7	4,332.8	3,270.3
III	5,177.3	89.6	5,087.7	3,956.7	308.0	823.0	647.1	596.6	395.6	201.0	4,440.5	3,360.1
IV	5,275.4	90.2	5,185.2	4,029.1	314.1	841.9	659.4	608.4	405.7	202.7	4,525.8	3,420.7
1998: I	5,373.6	91.1	5,282.5	4,101.1	319.6	861.8	665.3	614.2	410.4	203.8	4,617.2	3,486.9
II	5,496.7	92.7	5,404.0	4,192.2	325.9	886.0	664.2	613.3	410.1	203.3	4,739.8	3,578.8
III *p*	5,621.8	93.9	5,527.9	4,283.9	332.1	911.9	673.8	623.3	417.3	206.0	4,854.1	3,660.6

[1] Includes FHA insured multifamily properties, not shown separately.

[2] Derived figures. Total includes commercial properties, and multifamily properties, not shown separately.

Source: Board of Governors of the Federal Reserve System, based on data from various Government and private organizations.

TABLE B–76.—*Mortgage debt outstanding by holder, 1945–98*

[Billions of dollars]

End of year or quarter	Total	Major financial institutions				Other holders	
		Total	Savings institutions[1]	Commercial banks[2]	Life insurance companies	Federal and related agencies[3]	Individuals and others[4]
1945	35.5	21.0	9.6	4.8	6.6	2.4	12.1
1946	41.8	26.0	11.5	7.2	7.2	2.0	13.8
1947	48.9	31.8	13.8	9.4	8.7	1.8	15.3
1948	56.2	37.8	16.1	10.9	10.8	1.8	16.6
1949	62.7	42.9	18.3	11.6	12.9	2.3	17.5
1950	72.8	51.7	21.9	13.7	16.1	2.8	18.4
1951	82.3	59.5	25.5	14.7	19.3	3.5	19.3
1952	91.4	66.9	29.8	15.9	21.3	4.1	20.4
1953	101.3	75.1	34.9	16.9	23.3	4.6	21.7
1954	113.7	85.7	41.1	18.6	26.0	4.8	23.2
1955	129.9	99.3	48.9	21.0	29.4	5.3	25.3
1956	144.5	111.2	55.5	22.7	33.0	6.2	27.1
1957	156.5	119.7	61.2	23.3	35.2	7.7	29.1
1958	171.8	131.5	68.9	25.5	37.1	8.0	32.3
1959	190.8	145.5	78.1	28.1	39.2	10.2	35.1
1960	207.5	157.6	87.0	28.8	41.8	11.5	38.4
1961	228.0	172.6	98.0	30.4	44.2	12.2	43.1
1962	251.4	192.5	111.1	34.5	46.9	12.6	46.3
1963	278.5	217.1	127.2	39.4	50.5	11.8	49.5
1964	305.9	241.0	141.9	44.0	55.2	12.2	52.7
1965	333.3	264.6	154.9	49.7	60.0	13.5	55.2
1966	356.5	280.8	161.8	54.4	64.6	17.5	58.2
1967	381.2	298.8	172.3	59.0	67.5	20.9	61.4
1968	411.1	319.9	184.3	65.7	70.0	25.1	66.1
1969	441.6	339.1	196.4	70.7	72.0	31.1	71.4
1970	473.7	355.9	208.3	73.3	74.4	38.3	79.4
1971	524.2	394.2	236.2	82.5	75.5	46.4	83.6
1972	597.4	450.0	273.7	99.3	76.9	54.6	92.8
1973	672.6	505.4	305.0	119.1	81.4	64.8	102.4
1974	732.5	542.6	324.2	132.1	86.2	82.2	107.7
1975	791.9	581.2	355.8	136.2	89.2	101.1	109.6
1976	878.6	647.5	404.6	151.3	91.6	116.7	114.4
1977	1,010.3	745.2	469.4	179.0	96.8	140.5	124.6
1978	1,163.0	848.2	528.0	214.0	106.2	170.6	144.3
1979	1,328.4	938.2	574.6	245.2	118.4	216.0	174.3
1980	1,464.8	998.6	603.1	264.5	131.1	256.8	209.4
1981	1,590.2	1,042.8	618.5	286.5	137.7	289.4	258.0
1982	1,675.6	1,023.4	578.1	303.4	142.0	355.4	296.8
1983	1,869.3	1,110.0	626.7	332.3	151.0	433.4	325.8
1984	2,113.1	1,247.8	709.7	381.4	156.7	490.6	374.7
1985	2,377.2	1,363.5	760.5	431.2	171.8	581.9	431.8
1986	2,661.5	1,476.5	778.0	504.7	193.8	733.7	451.3
1987	2,998.9	1,667.6	860.5	594.8	212.4	858.9	472.3
1988	3,315.6	1,834.4	924.6	676.9	232.9	937.8	543.5
1989	3,586.8	1,935.2	910.3	770.7	254.2	1,067.3	583.6
1990	3,800.8	1,918.8	801.6	849.3	267.9	1,258.9	623.0
1991	3,954.2	1,846.2	705.4	881.3	259.5	1,422.5	685.6
1992	4,068.9	1,770.5	628.0	990.5	242.0	1,558.1	740.3
1993	4,209.6	1,770.6	598.4	947.8	224.4	1,682.8	756.2
1994	4,392.8	1,819.8	596.2	1,012.7	210.9	1,787.7	785.3
1995	4,608.3	1,900.1	596.8	1,090.2	213.1	1,877.1	831.2
1996	4,932.2	1,981.9	628.3	1,145.4	208.2	2,012.3	938.0
1997	5,275.4	2,082.8	631.8	1,244.2	206.8	2,118.4	1,074.2
1996: I	4,688.8	1,913.2	602.6	1,097.6	213.0	1,905.8	869.8
II	4,774.5	1,934.2	611.5	1,109.9	212.8	1,949.2	891.0
III	4,853.6	1,959.4	627.8	1,123.2	208.4	1,981.8	912.4
IV	4,932.2	1,981.9	628.3	1,145.4	208.2	2,012.3	938.0
1997: I	4,984.7	1,993.4	626.4	1,160.1	206.9	2,035.2	956.1
II	5,062.1	2,033.2	629.1	1,196.5	207.7	2,055.0	973.8
III	5,177.3	2,064.3	631.4	1,227.1	205.8	2,082.1	1,030.8
IV	5,275.4	2,082.8	631.8	1,244.2	206.8	2,118.4	1,074.2
1998: I	5,373.6	2,113.6	637.0	1,270.1	206.5	2,140.5	1,119.5
II	5,496.7	2,118.4	629.9	1,280.8	207.7	2,203.3	1,175.0
III[p]	5,621.8	2,136.4	633.3	1,295.7	207.4	2,256.5	1,228.9

[1] Includes savings banks and savings and loan associations. Data reported by Federal Savings and Loan Insurance Corporation-insured institutions include loans in process for 1987 and exclude loans in process beginning 1988.

[2] Includes loans held by nondeposit trust companies, but not by bank trust departments.

[3] Includes Government National Mortgage Association (GNMA), Federal Housing Administration, Veterans Administration, Farmers Home Administration (FmHA), Federal Deposit Insurance Corporation, Resolution Trust Corporation (through 1995), and in earlier years Reconstruction Finance Corporation, Homeowners Loan Corporation, Federal Farm Mortgage Corporation, and Public Housing Administration. Also includes U.S.-sponsored agencies such as Federal National Mortgage Association (FNMA), Federal Land Banks, Federal Home Loan Mortgage Corporation (FHLMC), and mortgage pass-through securities issued or guaranteed by GNMA, FHLMC, FNMA or FmHA. Other U.S. agencies (amounts small or current separate data not readily available) included with "individuals and others."

[4] Includes private mortgage pools.

Source: Board of Governors of the Federal Reserve System, based on data from various Government and private organizations.

TABLE B–77.—*Consumer credit outstanding, 1955–98*

[Amount outstanding (end of month); billions of dollars, seasonally adjusted]

Year and month	Total consumer credit [1]	Automobile	Revolving [2]	Other [3]
December:				
1955	41.9	13.5	.....	28.4
1956	45.4	14.5	.....	30.9
1957	48.1	15.5	.....	32.6
1958	48.3	14.3	.....	34.1
1959	55.9	16.6	.....	39.3
1960	60.0	18.1	.....	41.9
1961	62.2	17.7	.....	44.5
1962	68.1	20.0	.....	48.1
1963	76.6	22.9	.....	53.7
1964	86.0	25.9	.....	60.1
1965	96.0	29.4	.....	66.6
1966	101.9	31.0	.....	70.8
1967	106.9	31.1	.....	75.7
1968	117.4	34.4	2.0	81.0
1969	127.1	36.9	3.6	86.6
1970	131.5	36.3	4.9	90.2
1971	146.9	40.5	8.3	98.1
1972	166.1	47.8	9.4	108.9
1973	190.0	53.7	11.3	124.9
1974	198.8	54.2	13.2	131.3
1975	203.6	56.8	14.5	132.3
1976	224.8	65.9	16.6	142.3
1977	257.5	79.0	36.7	141.8
1978	302.1	95.8	45.2	161.0
1979	343.5	108.7	53.4	181.5
1980	350.1	112.0	55.1	183.0
1981	367.6	119.8	61.1	186.7
1982	384.6	127.5	66.5	190.7
1983	433.7	146.2	79.1	208.4
1984	512.8	175.3	100.4	237.2
1985	592.7	210.8	124.7	257.1
1986	646.3	247.1	141.2	258.0
1987	676.3	266.1	160.9	249.4
1988 [4]	719.0	285.3	184.6	249.2
1989	779.0	290.8	211.2	277.0
1990	789.3	283.5	238.6	267.2
1991	777.2	263.4	263.7	250.1
1992	779.9	262.7	278.2	239.1
1993	839.1	288.1	310.0	241.1
1994	960.7	327.9	365.6	267.2
1995	1,095.7	364.2	443.2	288.3
1996	1,181.9	392.3	499.5	290.1
1997	1,233.1	413.4	531.1	288.6
1997: Jan	1,191.1	393.4	505.4	292.3
Feb	1,196.6	394.2	508.9	293.6
Mar	1,197.1	392.9	508.8	295.5
Apr	1,205.7	396.7	511.8	297.1
May	1,209.9	397.7	515.0	297.2
June	1,211.6	400.0	516.8	294.8
July	1,216.4	402.6	521.0	292.8
Aug	1,220.7	403.2	523.8	293.7
Sept	1,223.9	405.1	526.8	292.0
Oct	1,230.2	408.6	529.1	292.5
Nov	1,227.1	407.3	530.3	289.5
Dec	1,233.1	413.4	531.1	288.6
1998: Jan	1,235.5	415.3	533.0	287.1
Feb	1,240.5	416.7	535.3	288.4
Mar	1,247.4	419.8	539.4	288.2
Apr	1,251.9	421.2	541.8	288.8
May	1,254.3	422.6	541.2	290.5
June	1,263.7	425.5	545.3	292.8
July	1,269.8	428.1	543.6	298.1
Aug	1,277.4	432.2	548.7	296.4
Sept	1,285.3	435.0	552.5	297.9
Oct	1,297.2	437.0	557.1	303.1
Nov *p*	1,301.1	441.3	556.4	303.3

[1] Covers most short- and intermediate-term credit extended to individuals through regular business channels, usually to finance the purchase of consumer goods and services or to refinance debts incurred for such purposes. Credit secured by real estate is excluded.

[2] Consists of credit cards at retailers, gasoline companies, and commercial banks, and check credit at commercial banks. Excludes 30-day charge credit held by travel and entertainment companies. Prior to 1968, included in "other." Beginning 1977, includes open-end credit at retailers, previously included in "other." Also beginning 1977, some retail credit was reclassified from commercial into consumer credit.

[3] Includes mobile home loans and all other loans not included in automobile or revolving credit, such as loans for education, boats, trailers, or vacations. These loans may be secured or unsecured.

[4] Data newly available in January 1989 result in breaks in many series between December 1988 and subsequent months.

Source: Board of Governors of the Federal Reserve System.

TABLE B–78.—*Federal receipts, outlays, surplus or deficit, and debt, selected fiscal years, 1929–2000*

[Billions of dollars; fiscal years]

Fiscal year or period	Total			On-budget			Off-budget			Federal debt (end of period)		Addendum: Gross domestic product
	Receipts	Outlays	Surplus or deficit (–)	Receipts	Outlays	Surplus or deficit (–)	Receipts	Outlays	Surplus or deficit (–)	Gross Federal	Held by the public	
1929	3.9	3.1	0.7	3.9	3.1	0.7	.....	.....	.....	[1] 16.9	.....	.....
1933	2.0	4.6	–2.6	2.0	4.6	–2.6	.....	.....	.....	[1] 22.5	.....	57.4
1939	6.3	9.1	–2.8	5.8	9.2	–3.4	0.5	–0.0	0.5	48.2	41.4	88.9
1940	6.5	9.5	–2.9	6.0	9.5	–3.5	.6	–.0	.6	50.7	42.8	96.5
1941	8.7	13.7	–4.9	8.0	13.6	–5.6	.7	.0	.7	57.5	48.2	113.9
1942	14.6	35.1	–20.5	13.7	35.1	–21.3	.9	.1	.8	79.2	67.8	144.2
1943	24.0	78.6	–54.6	22.9	78.5	–55.6	1.1	.1	1.0	142.6	127.8	180.0
1944	43.7	91.3	–47.6	42.5	91.2	–48.7	1.3	.1	1.2	204.1	184.8	209.0
1945	45.2	92.7	–47.6	43.8	92.6	–48.7	1.3	.1	1.2	260.1	235.2	221.4
1946	39.3	55.2	–15.9	38.1	55.0	–17.0	1.2	.2	1.0	271.0	241.9	222.9
1947	38.5	34.5	4.0	37.1	34.2	2.9	1.5	.3	1.2	257.1	224.3	234.9
1948	41.6	29.8	11.8	39.9	29.4	10.5	1.6	.4	1.2	252.0	216.3	256.6
1949	39.4	38.8	.6	37.7	38.4	–.7	1.7	.4	1.3	252.6	214.3	271.7
1950	39.4	42.6	–3.1	37.3	42.0	–4.7	2.1	.5	1.6	256.9	219.0	273.6
1951	51.6	45.5	6.1	48.5	44.2	4.3	3.1	1.3	1.8	255.3	214.3	321.3
1952	66.2	67.7	–1.5	62.6	66.0	–3.4	3.6	1.7	1.9	259.1	214.8	348.9
1953	69.6	76.1	–6.5	65.5	73.8	–8.3	4.1	2.3	1.8	266.0	218.4	373.1
1954	69.7	70.9	–1.2	65.1	67.9	–2.8	4.6	2.9	1.7	270.8	224.5	378.0
1955	65.5	68.4	–3.0	60.4	64.5	–4.1	5.1	4.0	1.1	274.4	226.6	395.3
1956	74.6	70.6	3.9	68.2	65.7	2.5	6.4	5.0	1.5	272.7	222.2	427.6
1957	80.0	76.6	3.4	73.2	70.6	2.6	6.8	6.0	.8	272.3	219.3	450.5
1958	79.6	82.4	–2.8	71.6	74.9	–3.3	8.0	7.5	.5	279.7	226.3	460.6
1959	79.2	92.1	–12.8	71.0	83.1	–12.1	8.3	9.0	–.7	287.5	234.7	491.8
1960	92.5	92.2	.3	81.9	81.3	.5	10.6	10.9	–.2	290.5	236.8	518.2
1961	94.4	97.7	–3.3	82.3	86.0	–3.8	12.1	11.7	.4	292.6	238.4	530.9
1962	99.7	106.8	–7.1	87.4	93.3	–5.9	12.3	13.5	–1.3	302.9	248.0	567.5
1963	106.6	111.3	–4.8	92.4	96.4	–4.0	14.2	15.0	–.8	310.3	254.0	598.3
1964	112.6	118.5	–5.9	96.2	102.8	–6.5	16.4	15.7	.6	316.1	256.8	640.0
1965	116.8	118.2	–1.4	100.1	101.7	–1.6	16.7	16.5	.2	322.3	260.8	686.7
1966	130.8	134.5	–3.7	111.7	114.8	–3.1	19.1	19.7	–.6	328.5	263.7	752.8
1967	148.8	157.5	–8.6	124.4	137.0	–12.6	24.4	20.4	4.0	340.4	266.6	811.9
1968	153.0	178.1	–25.2	128.1	155.8	–27.7	24.9	22.3	2.6	368.7	289.5	868.1
1969	186.9	183.6	3.2	157.9	158.4	–.5	29.0	25.2	3.7	365.8	278.1	947.9
1970	192.8	195.6	–2.8	159.3	168.0	–8.7	33.5	27.6	5.9	380.9	283.2	1,009.0
1971	187.1	210.2	–23.0	151.3	177.3	–26.1	35.8	32.8	3.0	408.2	303.0	1,077.7
1972	207.3	230.7	–23.4	167.4	193.8	–26.4	39.9	36.9	3.1	435.9	322.4	1,176.9
1973	230.8	245.7	–14.9	184.7	200.1	–15.4	46.1	45.6	.5	466.3	340.9	1,306.8
1974	263.2	269.4	–6.1	209.3	217.3	–8.0	53.9	52.1	1.8	483.9	343.7	1,438.1
1975	279.1	332.3	–53.2	216.6	271.9	–55.3	62.5	60.4	2.0	541.9	394.7	1,554.5
1976	298.1	371.8	–73.7	231.7	302.2	–70.5	66.4	69.6	–3.2	629.0	477.4	1,730.4
Transition quarter	81.2	96.0	–14.7	63.2	76.6	–13.3	18.0	19.4	–1.4	643.6	495.5	454.8
1977	355.6	409.2	–53.7	278.7	328.5	–49.8	76.8	80.7	–3.9	706.4	549.1	1,971.4
1978	399.6	458.7	–59.2	314.2	369.1	–54.9	85.4	89.7	–4.3	776.6	607.1	2,212.6
1979	463.3	504.0	–40.7	365.3	404.1	–38.7	98.0	100.0	–2.0	829.5	640.3	2,495.9
1980	517.1	590.9	–73.8	[a]403.9	476.6	–72.7	113.2	114.3	–1.1	909.1	709.8	2,718.9
1981	599.3	678.2	–79.0	469.1	[a]543.1	–74.0	130.2	135.2	–5.0	994.8	785.3	3,049.1
1982	617.8	745.8	–128.0	474.3	594.4	–120.1	143.5	151.4	–7.9	1,137.3	919.8	3,211.3
1983	600.6	808.4	–207.8	453.2	661.3	–208.1	147.3	147.1	.2	1,371.7	1,131.6	3,421.9
1984	666.5	851.9	–185.4	500.4	686.1	–185.7	166.1	165.8	.3	1,564.7	1,300.5	3,812.0
1985	734.1	946.4	–212.3	547.9	769.6	–221.7	186.2	176.8	9.4	1,817.5	1,499.9	4,102.1
1986	769.2	990.5	–221.2	569.0	807.0	–238.0	200.2	183.5	16.7	2,120.6	1,736.7	4,374.3
1987	854.4	1,004.1	–149.8	641.0	810.3	–169.3	213.4	193.8	19.6	2,346.1	1,888.7	4,605.1
1988	909.3	1,064.5	–155.2	667.8	861.8	–194.0	241.5	202.7	38.8	2,601.3	2,050.8	4,953.5
1989	991.2	1,143.7	–152.5	727.5	932.8	–205.2	263.7	210.9	52.8	2,868.0	2,189.9	5,351.8
1990	1,032.0	1,253.2	–221.2	750.3	1,028.1	–277.8	281.7	225.1	56.6	3,206.6	2,410.7	5,684.5
1991	1,055.0	1,324.4	–269.4	761.2	1,082.7	–321.6	293.9	241.7	52.2	3,598.5	2,688.1	5,858.8
1992	1,091.3	1,381.7	–290.4	788.9	1,129.3	–340.5	302.4	252.3	50.1	4,002.1	2,998.8	6,143.2
1993	1,154.4	1,409.4	–255.0	842.5	1,142.8	–300.4	311.9	266.6	45.3	4,351.4	3,247.5	6,475.1
1994	1,258.6	1,461.7	–203.1	923.6	1,182.4	–258.8	335.0	279.4	55.7	4,643.7	3,432.1	6,845.7
1995	1,351.8	1,515.7	–163.9	1,000.8	1,227.1	–226.3	351.1	288.7	62.4	4,921.0	3,603.4	7,197.7
1996	1,453.1	1,560.5	–107.5	1,085.6	1,259.6	–174.0	367.5	300.9	66.6	5,181.9	3,733.0	7,549.2
1997	1,579.3	1,601.2	–21.9	1,187.3	1,290.6	–103.3	392.0	310.6	81.4	5,369.7	3,771.1	7,996.5
1998	1,721.8	1,652.6	69.2	1,306.0	1,335.9	–29.9	415.8	316.6	99.2	5,478.7	3,719.9	8,404.5
1999[2]	1,806.3	1,727.1	79.3	1,362.3	1,404.0	–41.7	444.0	323.1	121.0	5,614.9	3,669.7	8,747.9
2000[2]	1,883.0	1,765.7	117.3	1,417.7	1,429.8	–12.2	465.3	335.9	129.5	5,711.4	3,571.8	9,105.8

[1] Not strictly comparable with later data.
[2] Estimates.

Note.—Through fiscal year 1976, the fiscal year was on a July 1–June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1–September 30 basis. The 3-month period from July 1, 1976 through September 30, 1976 is a separate fiscal period known as the transition quarter.

Refunds of receipts are excluded from receipts and outlays.

See *Budget of the United States Government, Fiscal Year 2000*, February 1999, for additional information.

Sources: Department of Commerce (Bureau of Economic Analysis), Department of the Treasury, and Office of Management and Budget.

TABLE B–79.—*Federal budget receipts, outlays, surplus or deficit, and debt, as percent of gross domestic product, fiscal years 1934–2000*

[Percent; fiscal years]

Fiscal year or period	Receipts	Outlays		Surplus or deficit (–)	Federal debt (end of period)	
		Total	National defense		Gross Federal	Held by public
1934	4.8	10.7		–5.9		
1935	5.2	9.2		–4.0		
1936	5.0	10.5		–5.5		
1937	6.1	8.6		–2.5		
1938	7.6	7.7		–.1		
1939	7.1	10.3		–3.2	54.2	46.6
1940	6.8	9.8	1.7	–3.0	52.5	44.3
1941	7.6	12.0	5.6	–4.3	50.5	42.3
1942	10.1	24.4	17.8	–14.2	54.9	47.0
1943	13.3	43.6	37.1	–30.3	79.2	71.0
1944	20.9	43.7	37.9	–22.8	97.6	88.4
1945	20.4	41.9	37.5	–21.5	117.5	106.2
1946	17.6	24.8	19.1	–7.1	121.6	108.5
1947	16.4	14.7	5.5	1.7	109.5	95.5
1948	16.2	11.6	3.5	4.6	98.2	84.3
1949	14.5	14.3	4.8	.2	93.0	78.9
1950	14.4	15.6	5.0	–1.1	93.9	80.1
1951	16.1	14.2	7.3	1.9	79.5	66.7
1952	19.0	19.4	13.2	–.4	74.3	61.6
1953	18.7	20.4	14.2	–1.7	71.3	58.5
1954	18.4	18.7	13.0	–.3	71.6	59.4
1955	16.6	17.3	10.8	–.8	69.4	57.3
1956	17.4	16.5	9.9	.9	63.8	52.0
1957	17.8	17.0	10.1	.8	60.4	48.7
1958	17.3	17.9	10.2	–.6	60.7	49.1
1959	16.1	18.7	10.0	–2.6	58.5	47.7
1960	17.8	17.8	9.3	.1	56.1	45.7
1961	17.8	18.4	9.3	–.6	55.1	44.9
1962	17.6	18.8	9.2	–1.3	53.4	43.7
1963	17.8	18.6	8.9	–.8	51.9	42.5
1964	17.6	18.5	8.6	–.9	49.4	40.1
1965	17.0	17.2	7.4	–.2	46.9	38.0
1966	17.4	17.9	7.7	–.5	43.6	35.0
1967	18.3	19.4	8.8	–1.1	41.9	32.8
1968	17.6	20.5	9.4	–2.9	42.5	33.4
1969	19.7	19.4	8.7	.3	38.6	29.3
1970	19.1	19.4	8.1	–.3	37.8	28.1
1971	17.4	19.5	7.3	–2.1	37.9	28.1
1972	17.6	19.6	6.7	–2.0	37.0	27.4
1973	17.7	18.8	5.9	–1.1	35.7	26.1
1974	18.3	18.7	5.5	–.4	33.6	23.9
1975	18.0	21.4	5.6	–3.4	34.9	25.4
1976	17.2	21.5	5.2	–4.3	36.3	27.6
Transition quarter	17.9	21.1	4.9	–3.2	35.4	27.2
1977	18.0	20.8	4.9	–2.7	35.8	27.9
1978	18.1	20.7	4.7	–2.7	35.1	27.4
1979	18.6	20.2	4.7	–1.6	33.2	25.7
1980	19.0	21.7	4.9	–2.7	33.4	26.1
1981	19.7	22.2	5.2	–2.6	32.6	25.8
1982	19.2	23.2	5.8	–4.0	35.4	28.6
1983	17.6	23.6	6.1	–6.1	40.1	33.1
1984	17.5	22.3	6.0	–4.9	41.0	34.1
1985	17.9	23.1	6.2	–5.2	44.3	36.6
1986	17.6	22.6	6.2	–5.1	48.5	39.7
1987	18.6	21.8	6.1	–3.3	50.9	41.0
1988	18.4	21.5	5.9	–3.1	52.5	41.4
1989	18.5	21.4	5.7	–2.8	53.6	40.9
1990	18.2	22.0	5.3	–3.9	56.4	42.4
1991	18.0	22.6	4.7	–4.6	61.4	45.9
1992	17.8	22.5	4.9	–4.7	65.1	48.8
1993	17.8	21.8	4.5	–3.9	67.2	50.2
1994	18.4	21.4	4.1	–3.0	67.8	50.1
1995	18.8	21.1	3.8	–2.3	68.4	50.1
1996	19.2	20.7	3.5	–1.4	68.6	49.4
1997	19.7	20.0	3.4	–.3	67.2	47.2
1998	20.5	19.7	3.2	.8	65.2	44.3
1999 [1]	20.6	19.7	3.2	.9	64.2	41.9
2000 [1]	20.7	19.4	3.0	1.3	62.7	39.2

[1] Estimates.

Note.—See Note, Table B–78.

Sources: Department of the Treasury and Office of Management and Budget.

TABLE B–80.—*Federal receipts and outlays, by major category, and surplus or deficit, fiscal years 1940–2000*

[Billions of dollars; fiscal years]

Fiscal year or period	Receipts (on-budget and off-budget)					Outlays (on-budget and off-budget)										Surplus or deficit (–) (on-budget and off-budget)
	Total	Individual income taxes	Corporation income taxes	Social insurance and retirement receipts	Other	Total	National defense		International affairs	Health	Medicare	Income security	Social security	Net interest	Other	
							Total	Department of Defense, military								
1940	6.5	0.9	1.2	1.8	2.7	9.5	1.7		0.1	0.1		1.5	0.0	0.9	5.3	–2.9
1941	8.7	1.3	2.1	1.9	3.3	13.7	6.4		.1	.1		1.9	.1	.9	4.1	–4.9
1942	14.6	3.3	4.7	2.5	4.2	35.1	25.7		1.0	.1		1.8	.1	1.1	5.4	–20.5
1943	24.0	6.5	9.6	3.0	4.9	78.6	66.7		1.3	.1		1.7	.2	1.5	7.0	–54.6
1944	43.7	19.7	14.8	3.5	5.7	91.3	79.1		1.4	.2		1.5	.2	2.2	6.6	–47.6
1945	45.2	18.4	16.0	3.5	7.3	92.7	83.0		1.9	.2		1.1	.3	3.1	3.1	–47.6
1946	39.3	16.1	11.9	3.1	8.2	55.2	42.7		1.9	.2		2.4	.4	4.1	3.6	–15.9
1947	38.5	17.9	8.6	3.4	8.5	34.5	12.8		5.8	.2		2.8	.5	4.2	8.2	4.0
1948	41.6	19.3	9.7	3.8	8.8	29.8	9.1		4.6	.2		2.5	.6	4.3	8.5	11.8
1949	39.4	15.6	11.2	3.6	8.9	38.8	13.2		6.1	.2		3.2	.7	4.5	11.1	.8
1950	39.4	15.8	10.4	4.3	8.9	42.6	13.7		4.7	.3		4.1	.8	4.8	14.2	–3.1
1951	51.6	21.6	14.1	5.7	10.2	45.5	23.6		3.6	.3		3.4	1.6	4.7	8.4	6.1
1952	66.2	27.9	21.2	6.4	10.6	67.7	46.1		2.7	.3		3.7	2.1	4.7	8.1	–1.5
1953	69.6	29.8	21.2	6.8	11.7	76.1	52.8		2.1	.3		3.8	2.7	5.2	9.1	–6.5
1954	69.7	29.5	21.1	7.2	11.9	70.9	49.3		1.6	.3		4.4	3.4	4.8	7.1	–1.2
1955	65.5	28.7	17.9	7.9	11.0	68.4	42.7		2.2	.3		5.1	4.4	4.9	8.9	–3.0
1956	74.6	32.2	20.9	9.3	12.2	70.6	42.5		2.4	.4		4.7	5.5	5.1	10.1	3.9
1957	80.0	35.6	21.2	10.0	13.2	76.6	45.4		3.1	.5		5.4	6.7	5.4	10.1	3.4
1958	79.6	34.7	20.1	11.2	13.6	82.4	46.8		3.4	.5		7.5	8.2	5.6	10.3	–2.8
1959	79.2	36.7	17.3	11.7	13.5	92.1	49.0		3.1	.7		8.2	9.7	5.8	15.5	–12.8
1960	92.5	40.7	21.5	14.7	15.6	92.2	48.1		3.0	.8		7.4	11.6	6.9	14.4	.3
1961	94.4	41.3	21.0	16.4	15.7	97.7	49.6		3.2	.9		9.7	12.5	6.7	15.2	–3.3
1962	99.7	45.6	20.5	17.0	16.5	106.8	52.3	50.1	5.6	1.2		9.2	14.4	6.9	17.2	–7.1
1963	106.6	47.6	21.6	19.8	17.6	111.3	53.4	51.1	5.3	1.5		9.3	15.8	7.7	18.3	–4.8
1964	112.6	48.7	23.5	22.0	18.5	118.5	54.8	52.6	4.9	1.8		9.7	16.6	8.2	22.6	–5.9
1965	116.8	48.8	25.5	22.2	20.3	118.2	50.6	48.8	5.3	1.8		9.5	17.5	8.6	25.0	–1.4
1966	130.8	55.4	30.1	25.5	19.8	134.5	58.1	56.6	5.6	2.5	0.1	9.7	20.7	9.4	28.5	–3.7
1967	148.8	61.5	34.0	32.6	20.7	157.5	71.4	70.1	5.6	3.4	2.7	10.3	21.7	10.3	32.1	–8.6
1968	153.0	68.7	28.7	33.9	21.7	178.1	81.9	80.4	5.3	4.4	4.6	11.8	23.9	11.1	35.1	–25.2
1969	186.9	87.2	36.7	39.0	23.9	183.6	82.5	80.8	4.6	5.2	5.7	13.1	27.3	12.7	32.6	3.2
1970	192.8	90.4	32.8	44.4	25.2	195.6	81.7	80.1	4.3	5.9	6.2	15.7	30.3	14.4	37.2	–2.8
1971	187.1	86.2	26.8	47.3	26.8	210.2	78.9	77.5	4.2	6.8	6.6	22.9	35.9	14.8	40.0	–23.0
1972	207.3	94.7	32.2	52.6	27.8	230.7	79.2	77.6	4.8	8.7	7.5	27.7	40.2	15.5	47.3	–23.4
1973	230.8	103.2	36.2	63.1	28.3	245.7	76.7	75.0	4.1	9.4	8.1	28.3	49.1	17.3	52.8	–14.9
1974	263.2	119.0	38.6	75.1	30.6	269.4	79.3	77.9	5.7	10.7	9.6	33.7	55.9	21.4	52.9	–6.1
1975	279.1	122.4	40.6	84.5	31.5	332.3	86.5	84.9	7.1	12.9	12.9	50.2	64.7	23.2	74.8	–53.2
1976	298.1	131.6	41.4	90.8	34.3	371.8	89.6	87.9	6.4	15.7	15.8	60.8	73.9	26.7	82.7	–73.7
Transition quarter	81.2	38.8	8.5	25.2	8.8	96.0	22.3	21.8	2.5	3.9	4.3	15.0	19.8	6.9	21.4	–14.7
1977	355.6	157.6	54.9	106.5	36.6	409.2	97.2	95.1	6.4	17.3	19.3	61.1	85.1	29.9	93.0	–53.7
1978	399.6	181.0	60.0	121.0	37.7	458.7	104.5	102.3	7.5	18.5	22.8	61.5	93.9	35.5	114.7	–59.2
1979	463.3	217.8	65.7	138.9	40.8	504.0	116.3	113.6	7.5	20.5	26.5	66.4	104.1	42.6	120.2	–40.7
1980	517.1	244.1	64.6	157.8	50.6	590.9	134.0	130.9	12.7	23.2	32.1	86.6	118.5	52.5	131.3	–73.8
1981	599.3	285.9	61.1	182.7	69.5	678.2	157.5	153.9	13.1	26.9	39.1	99.7	139.6	68.8	133.5	–79.0
1982	617.8	297.7	49.2	201.5	69.3	745.8	185.3	180.7	12.3	27.4	46.6	107.7	156.0	85.0	125.4	–128.0
1983	600.6	288.9	37.0	209.0	65.6	808.4	209.9	204.4	11.8	28.6	52.6	122.6	170.7	89.8	122.2	–207.8
1984	666.5	298.4	56.9	239.4	71.8	851.9	227.4	220.9	15.9	30.4	57.5	112.7	178.2	111.1	118.6	–185.4
1985	734.1	334.5	61.3	265.2	73.1	946.4	252.7	245.2	16.2	33.5	65.8	128.2	188.6	129.5	131.8	–212.3
1986	769.2	349.0	63.1	283.9	73.2	990.5	273.4	265.5	14.2	35.9	70.2	119.8	198.8	136.0	142.2	–221.2
1987	854.4	392.6	83.9	303.3	74.6	1,004.1	282.0	274.0	11.6	40.0	75.1	123.3	207.4	138.7	126.1	–149.8
1988	909.3	401.2	94.5	334.3	79.3	1,064.5	290.4	281.9	10.5	44.5	78.9	129.4	219.3	151.8	139.7	–155.2
1989	991.2	445.7	103.3	359.4	82.8	1,143.7	303.6	294.9	9.6	48.4	85.0	136.1	232.5	169.3	159.3	–152.5
1990	1,032.0	466.9	93.5	380.0	91.5	1,253.2	299.3	289.8	13.8	57.7	98.1	147.1	248.6	184.2	204.3	–221.2
1991	1,055.0	467.8	98.1	396.0	93.1	1,324.4	273.3	262.4	15.9	71.2	104.5	170.3	269.0	194.5	225.7	–269.4
1992	1,091.3	476.0	100.3	413.7	101.4	1,381.7	298.4	286.9	16.1	89.5	119.0	197.0	287.6	199.4	174.7	–290.4
1993	1,154.4	509.7	117.5	428.3	98.9	1,409.4	291.1	278.6	17.2	99.4	130.6	207.3	304.6	198.8	160.4	–255.0
1994	1,258.6	543.1	140.4	461.5	113.7	1,461.7	281.6	268.6	17.1	107.1	144.7	214.1	319.6	203.0	174.5	–203.1
1995	1,351.8	590.2	157.0	484.5	120.1	1,515.7	272.1	259.4	16.4	115.4	159.9	220.5	335.8	232.1	163.4	–163.9
1996	1,453.1	656.4	171.8	509.4	115.4	1,560.5	265.7	253.2	13.5	119.4	174.2	226.0	349.7	241.1	170.9	–107.5
1997	1,579.3	737.5	182.3	539.4	120.2	1,601.2	270.5	258.3	15.2	123.8	190.0	230.9	365.3	244.0	161.5	–21.9
1998	1,721.8	828.6	188.7	571.8	132.7	1,652.6	268.5	256.1	13.1	131.4	192.8	233.2	379.2	243.4	190.9	69.2
1999[1]	1,806.3	868.9	182.2	598.8	146.4	1,727.1	276.7	263.6	15.5	143.1	205.0	243.1	392.6	227.2	223.8	79.3
2000[1]	1,883.0	899.7	189.4	636.5	157.4	1,765.7	274.1	260.8	16.1	152.3	216.6	258.0	408.6	215.2	224.9	117.3

[1] Estimates.

Note.—See Note, Table B–78.

Sources: Department of the Treasury and Office of Management and Budget.

TABLE B–81.—*Federal receipts, outlays, deficit, and debt, fiscal years 1994–2000*

[Millions of dollars; fiscal years]

Description	Actual					Estimates	
	1994	1995	1996	1997	1998	1999	2000
RECEIPTS AND OUTLAYS:							
Total receipts	1,258,627	1,351,830	1,453,062	1,579,292	1,721,798	1,806,334	1,882,992
Total outlays	1,461,731	1,515,729	1,560,512	1,601,232	1,652,552	1,727,071	1,765,687
Total surplus or deficit (–)	–203,104	–163,899	–107,450	–21,940	69,246	79,263	117,305
On-budget receipts	923,601	1,000,751	1,085,570	1,187,302	1,305,999	1,362,298	1,417,678
On-budget outlays	1,182,359	1,227,065	1,259,608	1,290,606	1,335,948	1,404,015	1,429,830
On-budget surplus or deficit (–)	–258,758	–226,314	–174,038	–103,304	–29,949	–41,717	–12,152
Off-budget receipts	335,026	351,079	367,492	391,990	415,799	444,036	465,314
Off-budget outlays	279,372	288,664	300,904	310,626	316,604	323,056	335,857
Off-budget surplus or deficit (–)	55,654	62,415	66,588	81,364	99,195	120,980	129,457
OUTSTANDING DEBT, END OF PERIOD:							
Gross Federal debt	4,643,705	4,921,018	5,181,934	5,369,707	5,478,724	5,614,934	5,711,380
Held by Government accounts	1,211,588	1,317,645	1,448,967	1,598,559	1,758,846	1,945,197	2,139,550
Held by the public	3,432,117	3,603,373	3,732,968	3,771,148	3,719,878	3,669,737	3,571,830
Federal Reserve System	355,150	374,114	390,924	424,507	458,131	.....	.....
Other	3,076,967	3,229,259	3,342,043	3,346,641	3,261,747	.....	.....
RECEIPTS: ON-BUDGET AND OFF-BUDGET	1,258,627	1,351,830	1,453,062	1,579,292	1,721,798	1,806,334	1,882,992
Individual income taxes	543,055	590,244	656,417	737,466	829,586	868,945	899,741
Corporation income taxes	140,385	157,004	171,824	182,293	188,677	182,210	189,356
Social insurance and retirement receipts	461,475	484,473	509,414	539,371	571,831	608,824	636,529
On-budget	126,450	133,394	141,922	147,381	156,032	164,788	171,215
Off-budget	335,026	351,079	367,492	391,990	415,799	444,036	465,314
Excise taxes	55,225	57,484	54,014	56,924	57,673	68,075	69,902
Estate and gift taxes	15,225	14,763	17,189	19,845	24,076	25,932	26,572
Customs duties and fees	20,099	19,301	18,670	17,928	18,297	17,654	18,364
Miscellaneous receipts:							
Deposits of earnings by Federal Reserve System	18,023	23,378	20,477	19,636	24,540	26,254	25,231
All other [1]	5,141	5,183	5,057	5,829	8,118	8,340	16,897
OUTLAYS: ON-BUDGET AND OFF-BUDGET	1,461,731	1,515,729	1,560,512	1,601,232	1,652,552	1,727,071	1,765,687
National defense	281,642	272,066	265,753	270,505	268,456	276,730	274,069
International affairs	17,083	16,434	13,496	15,228	12,109	15,474	16,102
General science, space, and technology	16,227	16,724	16,709	17,174	18,219	18,529	18,569
Energy	5,219	4,936	2,839	1,475	1,270	49	–1,995
Natural resources and environment	21,064	22,078	21,614	21,369	22,396	24,261	23,746
Agriculture	15,046	9,778	9,159	9,032	12,206	21,449	15,146
Commerce and housing credit	–4,228	–17,808	–10,472	–14,624	1,014	452	6,352
On-budget	–5,331	–15,839	–10,292	–14,575	797	–512	4,519
Off-budget	1,103	–1,969	–180	–49	217	964	1,833
Transportation	38,066	39,350	39,565	40,767	40,332	42,640	46,435
Community and regional development	10,454	10,641	10,685	11,005	9,720	10,428	10,234
Education, training, employment, and social services	46,307	54,263	52,001	53,008	54,919	60,065	63,351
Health	107,122	115,418	119,378	123,843	131,440	143,095	152,270
Medicare	144,747	159,855	174,225	190,016	192,822	204,982	216,599
Income security	214,085	220,495	225,967	230,899	233,202	243,130	258,029
Social security	319,565	335,846	349,676	365,257	379,225	392,608	408,575
On-budget	5,683	5,476	5,807	6,685	9,156	11,292	10,354
Off-budget	313,881	330,370	343,869	358,372	370,069	381,316	398,221
Veterans benefits and services	37,584	37,890	36,985	39,313	41,781	43,526	44,024
Administration of justice	15,256	16,216	17,548	20,173	22,832	24,467	27,529
General government	11,307	13,835	11,914	12,749	13,444	14,852	14,490
Net interest	202,957	232,169	241,090	244,016	243,359	227,244	215,187
On-budget	232,160	265,474	277,597	285,230	289,989	279,113	271,679
Off-budget	–29,203	–33,305	–36,507	–41,214	–46,630	–51,869	–56,492
Allowances	.....	.....	.....	.....	.....	3,118	2,631
Undistributed offsetting receipts	–37,772	–44,455	–37,620	–49,973	–47,194	–40,028	–45,656
On-budget	–31,362	–38,023	–31,342	–43,490	–40,142	–32,673	–37,951
Off-budget	–6,409	–6,432	–6,278	–6,483	–7,052	–7,355	–7,705

[1] Beginning 1984, includes universal service fund receipts. Beginning 2000, includes receipts from tobacco legislation.

Note.—See Note, Table B–78.

Sources: Department of the Treasury and Office of Management and Budget.

TABLE B–82.—*Federal Government receipts and current expenditures, national income and product accounts (NIPA), 1979–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Receipts					Current expenditures									Current surplus or deficit (–) (NIPA)
							Consumption expenditures		Transfer payments		Grants-in-aid to State and local governments	Net interest paid	Subsidies less current surplus of government enterprises		
	Total	Personal tax and nontax receipts	Corporate profits tax accruals	Indirect business tax and nontax accruals	Contributions for social insurance	Total[1]	Total	National defense	To persons	To rest of the world (net)					
Fiscal:															
1979	497.0	221.6	75.3	29.9	170.2	514.8	181.2	126.9	198.5	4.0	79.1	40.2	11.7		–17.8
1980	546.7	249.1	70.4	36.2	190.9	597.0	207.5	145.3	225.4	4.3	86.7	50.1	13.0		–50.3
1981	633.5	287.9	69.3	54.3	222.0	690.1	239.0	168.6	274.6	5.2	90.1	66.1	15.2		–56.6
1982	653.7	308.4	61.6	51.5	242.2	758.5	263.7	192.2	305.6	6.3	83.4	81.8	17.7		–104.8
1983	658.1	291.0	56.4	51.6	258.1	836.2	291.4	211.6	339.9	7.0	86.2	89.9	21.4		–178.1
1984	723.7	300.7	75.1	57.4	290.5	878.7	298.8	224.1	342.4	9.0	91.6	107.2	29.9		–155.1
1985	798.7	337.8	75.0	58.9	326.9	957.2	333.5	250.1	360.7	12.3	98.6	125.4	26.6		–158.6
1986	836.4	353.6	80.5	53.7	348.7	1,017.9	359.1	271.3	380.6	13.3	108.2	129.9	26.7		–181.4
1987	922.5	398.3	99.3	56.4	368.5	1,051.1	373.4	283.0	399.4	10.7	103.3	134.2	30.2		–128.6
1988	981.5	407.9	107.7	60.4	405.6	1,106.4	385.4	296.3	420.5	11.1	108.4	146.5	34.4		–124.9
1989	1,069.9	458.3	119.1	61.7	430.8	1,173.4	401.4	301.8	449.7	11.7	115.8	161.9	32.9		–103.5
1990	1,112.5	477.3	116.5	63.6	455.1	1,261.9	419.9	308.8	490.7	14.9	128.4	178.5	29.5		–149.4
1991	1,141.5	477.4	111.5	75.8	476.7	1,319.9	444.9	326.0	535.7	–26.0	147.1	187.1	31.7		–178.4
1992	1,181.0	485.8	115.4	80.3	499.0	1,455.3	447.6	318.0	595.8	13.5	168.4	197.9	34.1		–274.3
1993	1,251.8	513.3	130.6	85.2	522.7	1,512.6	449.9	312.2	634.3	17.3	180.3	192.2	38.7		–260.8
1994	1,356.5	555.2	152.5	97.1	551.7	1,555.1	445.6	305.7	661.9	16.4	197.2	195.6	38.4		–198.6
1995	1,449.9	598.2	178.0	94.7	579.0	1,626.5	444.4	299.7	699.6	14.2	211.9	220.3	36.2		–176.6
1996	1,549.5	670.1	191.0	89.7	598.7	1,670.9	441.6	297.9	737.8	14.1	216.2	227.5	33.7		–121.3
1997	1,692.1	753.2	205.4	97.6	635.9	1,729.2	457.8	305.9	772.0	13.3	221.5	231.2	33.4		–37.0
1998	1,828.1	851.8	211.1	95.9	669.3	1,757.6	455.1	302.6	793.6	11.6	235.4	233.4	28.6		70.4
Calendar:															
1979	511.1	229.7	74.4	30.1	176.8	529.5	185.9	130.7	205.7	4.1	80.5	42.1	11.3		–18.4
1980	561.5	256.2	70.3	39.7	195.3	622.5	215.2	150.9	247.0	5.0	88.7	52.7	13.9		–61.0
1981	649.3	297.2	65.7	57.3	229.1	707.1	246.0	174.3	282.1	5.0	87.9	71.7	14.4		–57.8
1982	646.4	302.9	49.0	49.7	244.8	781.0	270.0	197.6	316.4	7.0	83.9	84.4	19.4		–134.7
1983	671.9	293.0	61.3	53.3	264.2	846.3	293.0	214.9	340.0	7.8	87.0	92.8	25.4		–174.4
1984	746.9	308.3	75.2	57.9	305.3	902.9	314.1	236.3	344.6	9.7	94.4	113.3	27.1		–156.0
1985	811.3	343.7	76.3	58.2	333.1	974.2	342.5	257.6	366.9	12.2	100.3	126.9	25.2		–162.9
1986	850.1	358.3	83.8	53.2	354.7	1,027.6	362.3	272.7	386.2	12.9	107.6	130.5	28.0		–177.5
1987	937.4	402.4	103.2	57.8	374.1	1,066.3	378.2	287.6	401.8	11.2	102.9	137.8	34.4		–128.9
1988	997.2	414.4	111.0	60.9	410.9	1,118.5	387.8	297.9	425.8	11.4	111.2	148.4	33.8		–121.3
1989	1,079.3	463.4	117.1	61.7	437.1	1,192.7	405.2	303.3	460.3	11.4	118.2	166.7	30.8		–113.4
1990	1,129.8	485.7	118.0	65.1	461.1	1,284.5	426.6	312.7	500.0	13.3	132.4	179.9	32.4		–154.7
1991	1,149.0	476.9	109.8	79.7	482.6	1,345.0	445.9	325.4	550.1	–27.9	153.4	192.7	30.8		–196.0
1992	1,198.5	490.8	118.6	81.9	507.1	1,479.4	451.0	319.7	608.5	16.6	172.2	195.8	35.1		–280.9
1993	1,275.1	522.6	138.3	86.9	527.3	1,525.7	447.3	311.1	642.6	17.3	185.8	192.7	40.1		–250.7
1994	1,374.8	562.3	156.7	98.7	557.1	1,561.4	443.2	301.6	666.6	16.4	199.2	200.0	35.9		–186.7
1995	1,460.3	606.1	179.3	92.5	582.4	1,634.7	442.8	298.2	708.9	11.4	212.0	224.8	34.8		–174.4
1996	1,584.7	687.0	193.0	94.5	610.2	1,695.0	450.9	304.1	748.0	16.2	218.9	228.4	32.7		–110.3
1997	1,719.9	769.1	210.0	93.8	647.0	1,741.0	460.4	306.3	779.2	12.7	225.0	231.2	32.5		–21.1
1993: I	1,227.1	500.8	125.2	82.6	518.5	1,505.3	447.1	312.4	634.5	12.6	177.2	192.2	41.7		–278.2
II	1,268.8	519.1	138.5	85.5	525.8	1,518.0	445.8	311.5	640.9	14.8	181.9	193.1	41.6		–249.2
III	1,277.2	527.1	135.0	85.9	529.3	1,527.8	447.0	310.6	645.8	15.5	187.3	192.9	39.2		–250.6
IV	1,327.2	543.4	154.5	93.8	535.5	1,551.9	449.2	309.8	649.3	26.2	196.9	192.5	37.8		–224.6
1994: I	1,324.5	542.0	136.9	98.2	547.4	1,533.5	442.4	299.8	659.5	11.2	194.5	189.9	36.0		–209.0
II	1,381.1	574.3	153.4	98.1	555.3	1,544.3	439.2	300.7	663.9	12.9	196.2	196.6	35.4		–163.2
III	1,383.8	561.6	163.4	99.3	559.5	1,571.4	450.5	308.7	668.1	15.7	199.6	202.8	34.8		–187.6
IV	1,409.5	571.1	173.2	99.0	566.2	1,596.4	440.8	297.3	674.9	25.8	206.6	210.8	37.5		–186.8
1995: I	1,426.2	582.9	172.5	96.0	574.7	1,615.8	443.0	298.7	695.8	11.9	212.4	218.3	34.4		–189.6
II	1,459.3	609.4	176.6	94.6	578.7	1,637.1	444.7	300.2	706.3	10.8	216.4	224.3	34.6		–177.9
III	1,469.1	608.2	186.2	89.2	585.5	1,646.0	447.2	301.1	713.6	11.2	211.0	227.8	35.2		–176.9
IV	1,486.8	623.9	182.1	90.3	590.5	1,639.8	436.5	292.7	719.8	11.6	208.1	228.7	35.1		–153.0
1996: I	1,529.9	652.6	191.2	89.9	596.2	1,680.0	445.7	300.1	738.8	19.0	214.3	227.7	34.4		–150.1
II	1,581.7	691.4	195.2	88.3	606.7	1,694.4	453.1	305.9	746.9	11.0	223.8	226.1	33.5		–112.6
III	1,593.7	693.8	194.3	90.5	615.0	1,693.8	452.9	305.5	750.7	11.8	219.0	228.6	30.8		–100.1
IV	1,633.5	710.0	191.4	109.2	622.9	1,711.9	451.8	304.7	755.8	22.8	218.4	231.1	32.0		–78.3
1997: I	1,671.1	741.7	203.9	90.7	634.8	1,722.3	456.8	303.8	773.9	9.5	220.7	229.4	32.0		–51.2
II	1,703.6	759.1	206.5	95.5	642.4	1,738.4	464.8	310.4	777.3	9.9	223.2	231.6	31.6		–34.8
III	1,739.6	776.9	217.0	95.1	650.6	1,739.9	460.0	306.0	781.2	9.9	224.4	231.9	32.5		–.3
IV	1,765.5	798.6	212.8	93.8	660.3	1,763.4	460.1	304.8	784.4	21.5	231.8	231.8	33.7		2.2
1998: I	1,809.1	836.5	204.8	93.9	673.9	1,750.3	450.9	293.3	798.6	9.9	228.7	228.8	33.4		58.8
II	1,838.3	855.7	206.2	95.2	681.2	1,763.9	464.0	303.0	802.1	9.0	226.9	228.3	33.5		74.4
III	1,858.8	863.8	207.5	98.3	689.2	1,766.7	458.7	302.9	805.8	11.2	231.4	225.7	34.0		92.0

[1] Includes an item for the difference between wage accruals and disbursements, not shown separately.

Note.—See Note, Table B–78.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–83.—*Federal and State and local government receipts and current expenditures, national income and product accounts (NIPA), 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Total government			Federal Government			State and local government			Addendum: Grants-in-aid to State and local governments
	Receipts	Current expenditures	Current surplus or deficit (–) (NIPA)	Receipts	Current expenditures	Current surplus or deficit (–) (NIPA)	Receipts	Current expenditures	Current surplus or deficit (–) (NIPA)	
1959	128.8	116.6	12.2	90.6	88.0	2.6	45.0	35.4	9.6	6.8
1960	138.8	121.5	17.3	97.0	89.6	7.4	48.3	38.4	9.9	6.5
1961	144.1	130.8	13.3	99.0	96.1	2.9	52.4	42.0	10.4	7.2
1962	155.8	141.3	14.5	107.2	104.4	2.8	56.6	44.8	11.7	8.0
1963	167.5	149.1	18.4	115.5	110.2	5.4	61.1	48.1	13.0	9.1
1964	172.9	157.3	15.6	116.2	115.4	.9	67.1	52.4	14.7	10.4
1965	187.0	168.6	18.5	125.8	122.4	3.4	72.3	57.2	15.1	11.1
1966	210.7	190.8	19.9	143.5	140.9	2.6	81.5	64.3	17.3	14.4
1967	226.4	217.5	8.9	152.6	160.9	–8.3	89.8	72.5	17.3	15.9
1968	260.9	243.7	17.2	176.8	179.7	–2.8	102.7	82.6	20.0	18.6
1969	293.9	264.1	29.8	199.5	190.8	8.7	114.8	93.7	21.1	20.3
1970	299.6	292.9	6.7	195.1	209.1	–14.1	129.0	108.2	20.8	24.4
1971	319.6	323.2	–3.7	203.3	228.6	–25.3	145.3	123.7	21.7	29.0
1972	364.8	353.1	11.6	232.6	253.1	–20.5	169.7	137.5	32.2	37.5
1973	408.8	386.5	22.2	264.0	275.1	–11.1	185.3	152.0	33.4	40.6
1974	451.8	438.3	13.6	295.1	312.0	–16.9	200.6	170.2	30.5	43.9
1975	468.4	514.7	–46.3	297.4	371.3	–73.9	225.6	198.0	27.6	54.6
1976	535.9	557.1	–21.3	343.1	400.3	–57.2	253.9	217.9	35.9	61.1
1977	603.9	605.5	–1.5	389.6	435.9	–46.3	281.9	237.1	44.7	67.5
1978	678.5	657.5	20.9	446.5	478.1	–31.7	309.3	256.7	52.6	77.3
1979	761.1	727.3	33.8	511.1	529.5	–18.4	330.6	278.3	52.3	80.5
1980	834.2	840.8	–6.6	561.5	622.5	–61.0	361.4	307.0	54.4	88.7
1981	952.2	954.6	–2.4	649.3	707.1	–57.8	390.8	335.4	55.4	87.9
1982	971.5	1,054.9	–83.4	646.4	781.0	–134.7	409.0	357.7	51.3	83.9
1983	1,028.6	1,138.1	–109.5	671.9	846.3	–174.4	443.6	378.8	64.9	87.0
1984	1,144.5	1,213.7	–69.1	746.9	902.9	–156.0	492.0	405.1	86.9	94.4
1985	1,239.7	1,311.7	–71.9	811.3	974.2	–162.9	528.7	437.8	91.0	100.3
1986	1,313.1	1,395.7	–82.6	850.1	1,027.6	–177.5	570.6	475.7	94.9	107.6
1987	1,429.4	1,474.5	–45.1	937.4	1,066.3	–128.9	594.9	511.1	83.8	102.9
1988	1,517.3	1,552.7	–35.4	997.2	1,118.5	–121.3	631.4	545.5	85.9	111.2
1989	1,642.1	1,660.4	–18.3	1,079.3	1,192.7	–113.4	681.0	585.9	95.1	118.2
1990	1,726.4	1,800.9	–74.5	1,129.8	1,284.5	–154.7	728.9	648.8	80.1	132.4
1991	1,779.8	1,900.0	–120.2	1,149.0	1,345.0	–196.0	784.2	708.4	75.8	153.4
1992	1,870.6	2,065.2	–194.6	1,198.5	1,479.4	–280.9	844.3	758.0	86.3	172.2
1993	1,983.7	2,146.9	–163.2	1,275.1	1,525.7	–250.7	894.4	807.0	87.4	185.8
1994	2,124.7	2,214.5	–89.8	1,374.8	1,561.4	–186.7	949.2	852.3	96.8	199.2
1995	2,246.1	2,308.8	–62.7	1,460.3	1,634.7	–174.4	997.7	886.0	111.7	212.0
1996	2,411.0	2,398.7	12.3	1,584.7	1,695.0	–110.3	1,045.2	922.6	122.6	218.9
1997	2,589.2	2,476.1	113.1	1,719.9	1,741.0	–21.1	1,094.3	960.1	134.1	225.0
1993: I	1,917.5	2,118.0	–200.4	1,227.1	1,505.3	–278.2	867.6	789.8	77.8	177.2
II	1,970.8	2,138.7	–167.9	1,268.8	1,518.0	–249.2	883.9	802.6	81.3	181.9
III	1,989.8	2,153.4	–163.6	1,277.2	1,527.8	–250.6	899.9	812.9	86.9	187.3
IV	2,056.7	2,177.6	–120.9	1,327.2	1,551.9	–224.6	926.3	822.6	103.7	196.9
1994: I	2,051.9	2,176.2	–124.3	1,324.5	1,533.5	–209.0	922.0	837.2	84.7	194.5
II	2,125.9	2,194.3	–68.4	1,381.1	1,544.3	–163.2	941.0	846.2	94.8	196.2
III	2,141.1	2,230.3	–89.2	1,383.8	1,571.4	–187.6	956.9	858.4	98.4	199.6
IV	2,179.8	2,257.3	–77.5	1,409.5	1,596.4	–186.8	976.8	867.5	109.3	206.6
1995: I	2,199.7	2,278.9	–79.2	1,426.2	1,615.8	–189.6	985.9	875.5	110.4	212.4
II	2,238.9	2,304.2	–65.3	1,459.3	1,637.1	–177.9	996.0	883.4	112.6	216.4
III	2,260.0	2,323.9	–63.9	1,469.1	1,646.0	–176.9	1,001.9	888.9	113.0	211.0
IV	2,285.9	2,328.1	–42.3	1,486.8	1,639.8	–153.0	1,007.1	896.4	110.7	208.1
1996: I	2,340.8	2,373.7	–32.8	1,529.9	1,680.0	–150.1	1,025.3	908.0	117.3	214.3
II	2,405.9	2,389.4	16.5	1,581.7	1,694.4	–112.6	1,047.9	918.8	129.1	223.8
III	2,423.8	2,401.7	22.2	1,593.7	1,693.8	–100.1	1,049.1	926.9	122.3	219.0
IV	2,473.5	2,430.1	43.4	1,633.5	1,711.9	–78.3	1,058.3	936.6	121.7	218.4
1997: I	2,525.6	2,448.4	77.2	1,671.1	1,722.3	–51.2	1,075.2	946.8	128.4	220.7
II	2,564.9	2,469.6	95.3	1,703.6	1,738.4	–34.8	1,084.5	954.4	130.1	223.2
III	2,616.0	2,479.8	136.2	1,739.6	1,739.9	–.3	1,100.8	964.3	136.6	224.4
IV	2,650.3	2,506.7	143.6	1,765.5	1,763.4	2.2	1,116.5	975.1	141.4	231.8
1998: I	2,703.6	2,504.6	199.0	1,809.1	1,750.3	58.8	1,123.3	983.0	140.2	228.7
II	2,745.2	2,529.5	215.7	1,838.3	1,763.9	74.4	1,133.8	992.5	141.3	226.9
III	2,779.7	2,538.9	240.7	1,858.8	1,766.7	92.0	1,152.3	1,003.6	148.7	231.4

Note.—Federal grants-in-aid to State and local governments are reflected in Federal current expenditures and State and local receipts. Total government receipts and current expenditures have been adjusted to eliminate this duplication.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–84.—*Federal and State and local government receipts and current expenditures, national income and product accounts (NIPA), by major type, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Receipts					Current expenditures								Current surplus or deficit (–) (NIPA)	Addendum: Grants-in-aid to State and local governments
									Net interest paid						
	Total	Personal tax and nontax receipts	Corporate profits tax accruals	Indirect business tax and nontax accruals	Contributions for social insurance	Total[1]	Consumption expenditures	Transfer payments	Total	Interest paid	Less: Interest received by government[2]	Less: Dividends received by government[2]	Subsidies less current surplus of government enterprises		
1959	128.8	44.5	23.6	41.9	18.8	116.6	82.7	27.5	6.3				0.1	12.2	6.8
1960	138.8	48.7	22.7	45.5	21.9	121.5	85.0	29.3	6.9	10.1	3.3		.3	17.3	6.5
1961	144.1	50.3	22.8	48.1	22.9	130.8	89.6	33.6	6.4	9.9	3.5		1.3	13.3	7.2
1962	155.8	54.8	24.0	51.7	25.4	141.3	98.2	34.7	6.9	10.8	3.9		1.5	14.5	8.0
1963	167.5	58.0	26.2	54.7	28.5	149.1	104.2	36.6	7.4	11.6	4.2		.9	18.4	9.1
1964	172.9	56.0	28.0	58.8	30.1	157.3	109.9	38.1	7.9	12.5	4.6		1.4	15.6	10.4
1965	187.0	61.9	30.9	62.7	31.6	168.6	117.6	41.1	8.1	13.2	5.1		1.7	18.5	11.1
1966	210.7	71.0	33.7	65.4	40.6	190.8	133.5	45.8	8.5	14.5	6.0		3.0	19.9	14.4
1967	226.4	77.9	32.7	70.4	45.5	217.5	151.2	54.5	8.9	15.7	6.8		2.9	8.9	15.9
1968	260.9	92.1	39.4	79.0	50.4	243.7	167.8	62.6	10.3	18.1	7.7	0.1	3.1	17.2	18.6
1969	293.9	109.9	39.7	86.6	57.8	264.1	179.9	69.3	11.5	19.8	8.3	.2	3.6	29.8	20.3
1970	299.6	109.0	34.4	94.3	62.0	292.9	192.1	83.8	12.4	22.3	9.9	.2	4.9	6.7	24.4
1971	319.6	108.7	37.7	103.6	69.6	323.2	206.7	99.4	12.5	23.1	10.6	.3	5.1	–3.7	29.0
1972	364.8	132.0	41.9	111.4	79.5	353.1	223.6	110.9	12.9	24.8	11.9	.3	6.4	11.6	37.5
1973	408.8	140.6	49.3	121.0	97.9	386.5	239.4	126.6	15.2	29.6	14.4	.5	5.9	22.2	40.6
1974	451.8	159.1	51.8	129.3	111.7	438.3	267.2	150.5	16.3	33.6	17.3	.9	4.5	13.6	43.9
1975	468.4	156.4	50.9	140.0	121.1	514.7	299.9	189.2	18.5	37.7	19.2	.9	8.1	–46.3	54.6
1976	535.9	182.3	64.2	151.6	137.7	557.1	321.4	206.5	22.8	43.6	20.9	.9	7.4	–21.3	61.1
1977	603.9	210.0	73.0	165.5	155.4	605.5	351.5	220.9	24.4	47.9	23.5	1.3	10.1	–1.5	67.5
1978	678.5	240.1	83.5	177.8	177.0	657.5	383.3	238.6	26.5	56.8	30.3	1.7	11.1	20.9	77.3
1979	761.1	280.2	88.0	188.7	204.2	727.3	421.8	266.9	28.7	68.6	39.9	2.0	11.7	33.8	80.5
1980	834.2	312.4	84.8	212.0	225.0	840.8	476.4	317.6	33.4	83.9	50.5	1.9	15.2	–6.6	88.7
1981	952.2	360.2	81.1	249.3	261.6	954.6	531.3	360.7	48.1	110.2	62.1	2.3	16.9	–2.4	87.9
1982	971.5	371.4	63.1	256.4	280.6	1,054.9	577.9	403.3	55.5	130.6	75.0	2.9	21.1	–83.4	83.9
1983	1,028.6	369.3	77.2	280.1	301.9	1,138.1	619.2	434.4	61.8	146.7	84.9	3.4	25.6	–109.5	87.0
1984	1,144.5	395.5	94.0	309.5	345.5	1,213.7	664.9	448.2	79.1	174.7	95.6	3.9	25.5	–69.1	94.4
1985	1,239.7	437.7	96.5	329.6	375.9	1,311.7	725.1	480.9	88.0	195.9	107.9	4.5	21.9	–71.9	100.3
1986	1,313.1	459.9	106.5	344.7	402.0	1,395.7	775.0	510.9	89.8	208.0	118.2	5.1	25.1	–82.6	107.6
1987	1,429.4	514.2	127.1	364.8	423.3	1,474.5	819.3	533.7	96.3	216.0	119.7	5.9	31.0	–45.1	102.9
1988	1,517.3	532.0	137.0	385.5	462.8	1,552.7	859.1	568.3	103.7	229.7	125.9	6.9	28.5	–35.4	111.2
1989	1,642.1	584.9	141.3	414.7	491.2	1,660.4	912.4	616.3	115.5	251.0	135.5	8.1	24.2	–18.3	118.2
1990	1,726.4	624.8	140.5	442.6	518.5	1,800.9	976.7	679.8	128.2	268.6	140.4	9.0	25.3	–74.5	132.4
1991	1,779.8	624.8	133.4	478.1	543.5	1,900.0	1,025.4	721.1	139.4	282.8	143.5	9.5	23.6	–120.2	153.4
1992	1,870.6	650.5	143.0	505.6	571.4	2,065.2	1,054.7	852.3	141.2	282.7	141.5	10.1	27.1	–194.6	172.2
1993	1,983.7	690.0	165.2	532.5	596.0	2,146.9	1,078.9	907.1	140.3	279.0	138.7	10.5	31.1	–163.2	185.8
1994	2,124.7	739.1	186.6	568.5	630.5	2,214.5	1,107.0	947.3	144.9	286.4	141.5	11.4	26.6	–89.8	199.2
1995	2,246.1	795.0	211.0	581.2	658.9	2,308.8	1,138.1	1,001.5	156.7	313.8	157.1	12.5	25.1	–62.7	212.0
1996	2,411.0	890.5	226.1	606.4	688.0	2,398.7	1,175.5	1,057.7	157.1	315.7	158.6	13.7	22.0	12.3	218.9
1997	2,589.2	989.0	246.1	627.2	727.0	2,476.1	1,219.2	1,096.0	153.8	316.9	163.1	14.8	21.9	113.1	225.0
1993: I	1,917.5	662.5	149.2	520.6	585.3	2,118.0	1,068.6	887.5	139.1	278.4	139.3	10.2	33.0	–200.4	177.2
II	1,970.8	685.6	165.4	525.9	594.0	2,138.7	1,074.7	900.9	140.8	279.6	138.8	10.4	32.8	–167.9	181.9
III	1,989.8	695.5	161.2	534.4	598.7	2,153.4	1,082.0	910.8	141.0	279.6	138.6	10.5	30.2	–153.6	187.3
IV	2,056.7	716.4	184.9	549.4	606.1	2,177.6	1,090.4	929.3	140.2	278.4	138.2	10.8	28.5	–120.9	196.9
1994: I	2,051.9	712.9	163.0	556.9	619.2	2,176.2	1,094.0	928.5	136.7	275.5	138.8	11.1	28.1	–124.3	194.5
II	2,125.9	750.5	182.8	564.4	628.2	2,194.3	1,098.4	939.2	142.1	282.4	140.3	11.3	25.9	–68.4	196.2
III	2,141.1	739.9	194.6	573.2	633.4	2,230.3	1,119.0	950.5	147.2	289.1	142.0	11.4	25.1	–89.2	199.6
IV	2,179.8	753.0	206.2	579.4	641.2	2,257.3	1,116.8	971.2	153.6	298.6	145.0	11.7	27.4	–77.5	206.6
1995: I	2,199.7	767.2	202.9	579.1	650.5	2,278.9	1,127.8	983.0	155.6	307.4	151.8	12.1	24.6	–79.2	212.4
II	2,238.9	795.7	207.6	580.6	655.1	2,304.2	1,138.3	996.3	157.0	314.3	157.3	12.3	24.9	–65.3	216.4
III	2,260.0	799.0	219.1	579.6	662.3	2,323.9	1,145.5	1,008.2	157.3	316.5	159.2	12.6	25.5	–63.9	211.0
IV	2,285.9	818.1	214.3	585.6	667.7	2,328.1	1,140.7	1,018.4	156.7	317.0	160.3	12.9	25.2	–42.3	208.1
1996: I	2,340.8	849.7	223.9	593.9	673.4	2,373.7	1,158.3	1,047.4	157.2	315.8	158.6	13.2	24.0	–32.8	214.3
II	2,405.9	893.3	228.6	599.7	684.2	2,389.4	1,174.7	1,050.2	155.4	313.6	158.2	13.7	22.8	16.5	223.8
III	2,423.8	899.4	227.7	603.8	693.0	2,401.7	1,180.7	1,057.4	157.3	316.1	158.9	13.7	20.0	22.2	219.0
IV	2,473.5	919.7	224.2	628.3	701.3	2,430.1	1,188.5	1,075.9	158.6	317.2	158.6	14.0	21.2	43.4	218.4
1997: I	2,525.6	955.6	238.8	617.2	714.0	2,448.4	1,204.1	1,083.1	154.4	314.9	160.5	14.4	21.3	77.2	220.7
II	2,564.9	975.8	241.9	625.0	722.1	2,469.6	1,218.8	1,089.6	154.9	317.7	162.8	14.7	21.0	95.3	223.2
III	2,616.0	999.0	254.2	632.0	730.8	2,479.8	1,222.3	1,096.6	153.7	317.7	164.0	14.8	22.0	136.2	224.4
IV	2,650.3	1,025.5	249.3	634.5	740.9	2,506.7	1,231.6	1,114.6	152.3	317.2	164.9	15.2	23.4	143.6	231.8
1998: I	2,703.6	1,066.8	239.9	641.9	755.0	2,504.6	1,227.5	1,121.1	148.2	314.3	166.1	15.7	23.5	199.0	228.7
II	2,745.2	1,092.9	241.6	647.7	762.9	2,529.5	1,248.7	1,126.7	146.2	314.5	168.3	16.0	23.9	215.7	226.9
III	2,779.7	1,108.4	243.2	656.5	771.6	2,538.9	1,252.6	1,135.8	141.9	312.0	170.1	16.0	24.6	240.7	231.4

[1] Includes an item for the difference between wage accruals and disbursements, not shown separately.
[2] Prior to 1968, dividends received is included in interest received.

Source: Department of Commerce, Bureau of Economic Analysis.

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TABLE B–85.—*State and local government receipts and current expenditures, national income and product accounts (NIPA), 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Receipts						Current expenditures					Current surplus or deficit (–) (NIPA)
	Total	Personal tax and nontax receipts	Corporate profits tax accruals	Indirect business tax and nontax accruals	Contributions for social insurance	Federal grants-in-aid	Total[1]	Consumption expenditures	Transfer payments to persons	Net interest paid less dividends received	Subsidies less current surplus of government enterprises	
1959	45.0	4.6	1.2	29.3	3.1	6.8	35.4	30.9	5.6	0.1	–1.2	9.6
1960	48.3	5.2	1.2	32.0	3.4	6.5	38.4	33.7	5.9	.1	–1.3	9.9
1961	52.4	5.7	1.3	34.4	3.7	7.2	42.0	36.7	6.5	.1	–1.4	10.4
1962	56.6	6.3	1.5	37.0	3.9	8.0	44.8	39.1	7.0	.2	–1.4	11.7
1963	61.1	6.7	1.7	39.4	4.2	9.1	48.1	42.2	7.5	.1	–1.7	13.0
1964	67.1	7.5	1.8	42.6	4.7	10.4	52.4	46.0	8.2	–.1	–1.7	14.7
1965	72.3	8.1	2.0	46.1	5.0	11.1	57.2	50.5	8.8	–.3	–1.7	15.1
1966	81.5	9.5	2.2	49.7	5.7	14.4	64.3	56.5	10.1	–.6	–1.7	17.3
1967	89.8	10.6	2.6	53.9	6.7	15.9	72.5	62.9	12.1	–.9	–1.6	17.3
1968	102.7	12.7	3.3	60.8	7.2	18.6	82.6	70.8	14.5	–1.1	–1.6	20.0
1969	114.8	15.2	3.6	67.4	8.3	20.3	93.7	79.8	16.7	–1.4	–1.5	21.1
1970	129.0	16.7	3.7	74.8	9.2	24.4	108.2	91.6	20.1	–2.0	–1.6	20.8
1971	145.3	18.7	4.3	83.1	10.2	29.0	123.7	102.9	24.0	–1.7	–1.4	21.7
1972	169.7	24.2	5.3	91.2	11.5	37.5	137.5	113.4	27.5	–1.8	–1.6	32.2
1973	185.3	26.3	6.0	99.5	13.0	40.6	152.0	126.4	30.4	–3.4	–1.5	33.4
1974	200.6	28.2	6.7	107.2	14.6	43.9	170.2	144.0	32.3	–5.3	–.9	30.5
1975	225.6	31.0	7.3	115.8	16.8	54.6	198.0	164.9	38.9	–5.4	–.4	27.6
1976	253.9	35.8	9.6	127.8	19.5	61.1	217.9	179.7	43.6	–5.0	–.4	35.9
1977	281.9	41.0	11.4	139.9	22.1	67.5	237.1	196.1	47.4	–6.0	–.3	44.7
1978	309.3	46.3	12.1	148.9	24.7	77.3	256.7	214.5	52.4	–9.8	–.3	52.6
1979	330.6	50.5	13.6	158.6	27.4	80.5	278.3	235.9	57.2	–15.3	.4	52.3
1980	361.4	56.2	14.5	172.3	29.7	88.7	307.0	261.3	65.7	–21.2	1.2	54.4
1981	390.8	63.0	15.4	192.0	32.5	87.9	335.4	285.3	73.6	–25.9	2.4	55.4
1982	409.0	68.5	14.0	206.8	35.8	83.9	357.7	307.9	79.9	–31.8	1.7	51.3
1983	443.6	76.2	15.9	226.8	37.7	87.0	378.8	326.2	86.6	–34.4	.2	64.9
1984	492.0	87.1	18.8	251.5	40.2	94.4	405.1	350.8	93.9	–38.0	–1.6	86.9
1985	528.7	94.0	20.2	271.4	42.8	100.3	437.8	382.6	101.9	–43.4	–3.3	91.0
1986	570.6	101.6	22.7	291.5	47.3	107.6	475.7	412.7	111.8	–45.8	–3.0	94.9
1987	594.9	111.8	23.9	307.1	49.2	102.9	511.1	441.1	120.7	–47.4	–3.4	83.8
1988	631.4	117.6	26.0	324.6	51.5	111.2	545.5	471.3	131.0	–51.5	–5.3	85.9
1989	681.0	131.4	24.2	353.0	54.1	118.2	585.9	507.2	144.5	–59.3	–6.6	95.1
1990	728.9	139.1	22.5	377.6	57.4	132.4	648.8	550.1	166.5	–60.7	–7.1	80.1
1991	784.2	147.8	23.6	398.4	60.9	153.4	708.4	579.4	199.0	–62.8	–7.2	75.8
1992	844.3	159.7	24.4	423.7	64.3	172.2	758.0	603.6	227.2	–64.8	–8.0	86.3
1993	894.4	167.4	26.9	445.6	68.7	185.8	807.0	631.6	247.2	–62.9	–9.0	87.4
1994	949.2	176.8	29.9	469.8	73.4	199.2	852.3	663.8	264.3	–66.5	–9.3	96.8
1995	997.7	188.9	31.7	488.7	76.5	212.0	886.0	695.2	281.2	–80.7	–9.7	111.7
1996	1,045.2	203.5	33.1	511.9	77.8	218.9	922.6	724.7	293.5	–85.0	–10.7	122.6
1997	1,094.3	219.9	36.0	533.4	79.9	225.0	960.1	758.8	304.1	–92.2	–10.6	134.1
1993: I	867.6	161.6	24.1	438.0	66.8	177.2	789.8	621.4	240.4	–63.3	–8.7	77.8
II	883.9	166.5	26.9	440.4	68.2	181.9	802.6	628.9	245.2	–62.7	–8.8	81.3
III	899.9	168.4	26.3	448.5	69.4	187.3	812.9	635.0	249.5	–62.4	–9.1	86.9
IV	926.3	172.9	30.4	455.5	70.6	196.9	822.6	641.1	253.8	–63.1	–9.2	103.7
1994: I	922.0	170.8	26.1	458.7	71.8	194.5	837.2	651.6	257.9	–64.3	–7.9	84.7
II	941.0	176.1	29.4	466.3	72.9	196.2	846.2	659.2	262.3	–65.8	–9.5	94.8
III	956.9	178.3	31.3	473.8	73.9	199.6	858.4	668.6	266.6	–67.0	–9.7	98.4
IV	976.8	182.0	32.9	480.4	74.9	206.6	867.5	676.0	270.5	–68.9	–10.1	109.3
1995: I	985.9	184.2	30.4	483.1	75.8	212.4	875.5	684.8	275.2	–74.8	–9.8	110.4
II	996.0	186.3	31.0	486.0	76.4	216.4	883.4	693.5	279.2	–79.7	–9.7	112.6
III	1,001.9	190.8	32.9	490.4	76.8	211.0	888.9	698.4	283.4	–83.1	–9.7	113.0
IV	1,007.1	194.4	32.2	495.3	77.1	208.1	896.4	704.2	286.9	–85.0	–9.9	110.7
1996: I	1,025.3	197.1	32.7	504.0	77.2	214.3	908.0	712.6	289.6	–83.7	–10.4	117.3
II	1,047.9	201.9	33.4	511.3	77.6	223.8	918.8	721.6	292.3	–84.4	–10.7	129.1
III	1,049.1	205.6	33.3	513.3	78.0	219.0	926.9	727.8	294.9	–85.1	–10.8	122.3
IV	1,058.3	209.7	32.8	519.1	78.4	218.4	936.6	736.7	297.3	–86.5	–10.9	121.7
1997: I	1,075.2	213.9	34.9	526.5	79.2	220.7	946.8	747.2	299.7	–89.4	–10.7	128.4
II	1,084.5	216.7	35.4	529.5	79.7	223.2	954.4	754.0	302.5	–91.4	–10.6	130.1
III	1,100.8	222.1	37.3	536.9	80.2	224.4	964.3	762.2	305.5	–93.0	–10.5	136.6
IV	1,116.5	226.9	36.5	540.7	80.6	231.8	975.1	771.5	308.6	–94.7	10.3	141.4
1998: I	1,123.3	230.4	35.1	548.0	81.1	228.7	983.0	776.7	312.6	–96.4	–9.9	140.2
II	1,133.8	237.2	35.4	552.5	81.7	226.9	992.5	784.7	315.6	–98.2	–9.6	141.3
III	1 152.3	244.6	35.7	558.2	82.4	231.4	1,003.6	793.9	318.8	–99.7	–9.4	148.7

[1] Includes an item for the difference between wage accruals and disbursements, not shown separately.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–86.—*State and local government revenues and expenditures, selected fiscal years, 1927–96*

[Millions of dollars]

Fiscal year[1]	General revenues by source[2]							General expenditures by function[2]				
	Total	Property taxes	Sales and gross receipts taxes	Individual income taxes	Corporation net income taxes	Revenue from Federal Government	All other[3]	Total	Education	Highways	Public welfare	All other[4]
1927	7,271	4,730	470	70	92	116	1,793	7,210	2,235	1,809	151	3,015
1932	7,267	4,487	752	74	79	232	1,643	7,765	2,311	1,741	444	3,269
1934	7,678	4,076	1,008	80	49	1,016	1,449	7,181	1,831	1,509	889	2,952
1936	8,395	4,093	1,484	153	113	948	1,604	7,644	2,177	1,425	827	3,215
1938	9,228	4,440	1,794	218	165	800	1,811	8,757	2,491	1,650	1,069	3,547
1940	9,609	4,430	1,982	224	156	945	1,872	9,229	2,638	1,573	1,156	3,862
1942	10,418	4,537	2,351	276	272	858	2,123	9,190	2,586	1,490	1,225	3,889
1944	10,908	4,604	2,289	342	451	954	2,269	8,863	2,793	1,200	1,133	3,737
1946	12,356	4,996	2,986	422	447	855	2,661	11,028	3,356	1,672	1,409	4,591
1948	17,250	6,126	4,442	543	592	1,861	3,685	17,684	5,379	3,036	2,099	7,170
1950	20,911	7,349	5,154	788	583	2,486	4,541	22,787	7,177	3,803	2,940	8,867
1952	25,181	8,652	6,357	998	846	2,566	5,763	26,098	8,318	4,650	2,788	10,342
1953	27,307	9,375	6,927	1,065	817	2,870	6,252	27,910	9,390	4,987	2,914	10,619
1954	29,012	9,967	7,276	1,127	778	2,966	6,897	30,701	10,557	5,527	3,060	11,557
1955	31,073	10,735	7,643	1,237	744	3,131	7,584	33,724	11,907	6,452	3,168	12,197
1956	34,657	11,749	8,691	1,538	890	3,335	8,465	36,711	13,220	6,953	3,139	13,399
1957	38,164	12,864	9,467	1,754	384	3,843	9,252	40,375	14,134	7,816	3,485	14,940
1958	41,219	14,047	9,829	1,759	1,018	4,865	9,699	44,851	15,919	8,567	3,818	16,547
1959	45,306	14,983	10,437	1,994	1,001	6,377	10,516	48,887	17,283	9,592	4,136	17,876
1960	50,505	16,405	11,349	2,463	1,180	6,974	11,634	51,876	18,719	9,428	4,404	19,325
1961	54,037	18,002	12,463	2,613	1,266	7,131	12,563	56,201	20,574	9,844	4,720	21,063
1962	58,752	19,054	13,496	3,037	1,308	7,871	13,489	60,206	22,216	10,357	5,084	22,549
1963	62,890	20,089	14,456	3,269	1,505	8,722	14,850	64,816	23,776	11,136	5,481	24,423
1962–63	62,269	19,833	14,446	3,267	1,505	8,663	14,556	63,977	23,729	11,150	5,420	23,678
1963–64	68,443	21,241	15,762	3,791	1,695	10,002	15,951	69,302	26,286	11,664	5,766	25,586
1964–65	74,000	22,583	17,118	4,090	1,929	11,029	17,250	74,678	28,563	12,221	6,315	27,579
1965–66	83,036	24,670	19,085	4,760	2,038	13,214	19,269	82,843	33,287	12,770	6,757	30,029
1966–67	91,197	26,047	20,530	5,825	2,227	15,370	21,197	93,350	37,919	13,932	8,218	33,281
1967–68	101,264	27,747	22,911	7,308	2,518	17,181	23,598	102,411	41,158	14,481	9,857	36,915
1968–69	114,550	30,673	26,519	8,908	3,180	19,153	26,118	116,728	47,238	15,417	12,110	41,963
1969–70	130,756	34,054	30,322	10,812	3,738	21,857	29,971	131,332	52,718	16,427	14,679	47,508
1970–71	144,927	37,852	33,233	11,900	3,424	26,146	32,374	150,674	59,413	18,095	18,226	54,940
1971–72	167,541	42,877	37,518	15,227	4,416	31,342	36,162	168,549	65,814	19,021	21,117	62,597
1972–73	190,222	45,283	42,047	17,994	5,425	39,264	40,210	181,357	69,714	18,615	23,582	69,446
1973–74	207,670	47,705	46,098	19,491	6,015	41,820	46,541	198,959	75,833	19,946	25,085	78,096
1974–75	228,171	51,491	49,815	21,454	6,642	47,034	51,735	230,722	87,858	22,528	28,156	92,180
1975–76	256,176	57,001	54,547	24,575	7,273	55,589	57,191	256,731	97,216	23,907	32,604	103,004
1976–77	285,157	62,527	60,641	29,246	9,174	62,444	61,124	274,215	102,780	23,058	35,906	112,472
1977–78	315,960	66,422	67,596	33,176	10,738	69,582	68,436	296,984	110,758	24,609	39,140	122,477
1978–79	343,236	64,944	74,247	36,932	12,128	75,164	79,821	327,517	119,448	28,440	41,898	137,731
1979–80	382,322	68,499	79,927	42,030	13,321	83,029	95,466	369,086	133,211	33,311	47,288	155,277
1980–81	423,404	74,969	85,971	46,426	14,143	90,294	111,599	407,449	145,784	34,603	54,105	172,957
1981–82	457,654	82,067	93,613	50,738	15,028	87,282	128,926	436,733	154,282	34,520	57,996	189,935
1982–83	486,753	89,105	100,247	55,129	14,258	90,007	138,008	466,516	163,876	36,655	60,906	205,079
1983–84	542,730	96,457	114,097	64,529	17,141	96,935	153,570	505,008	176,108	39,419	66,414	223,068
1984–85	598,121	103,757	126,376	70,361	19,152	106,158	172,317	553,899	192,686	44,989	71,479	244,745
1985–86	641,486	111,709	135,005	74,365	19,994	113,099	187,314	605,623	210,819	49,368	75,868	269,568
1986–87	686,860	121,203	144,091	83,935	22,425	114,857	200,350	657,134	226,619	52,355	82,650	295,510
1987–88	726,762	132,212	156,452	88,350	23,663	117,602	208,482	704,921	242,683	55,621	89,090	317,528
1988–89	786,129	142,400	166,336	97,806	25,926	125,824	227,838	762,360	263,898	58,105	97,879	342,479
1989–90	849,502	155,613	177,885	105,640	23,566	136,802	249,996	834,819	288,148	61,057	110,518	375,095
1990–91	902,207	167,999	185,570	109,341	22,242	154,099	262,955	908,108	309,302	64,937	130,402	403,467
1991–92	979,137	180,337	197,731	115,638	23,880	179,174	282,376	981,253	324,652	67,351	158,723	430,526
1992–93	1,041,567	189,793	209,649	123,235	26,417	198,591	293,932	1,033,167	342,287	68,370	170,705	451,805
1993–94	1,100,441	197,140	223,628	128,810	28,320	215,445	307,098	1,077,665	353,287	72,067	183,384	468,917
1994–95	1,169,505	203,451	237,268	137,931	31,406	228,771	330,677	1,149,863	378,273	77,109	196,703	497,779
1995–96	1,222,821	209,440	248,993	146,844	32,009	234,891	350,645	1,193,276	398,859	79,092	197,354	517,971

[1] Fiscal years not the same for all governments. See Note.

[2] Excludes revenues or expenditures of publicly owned utilities and liquor stores, and of insurance-trust activities. Intergovernmental receipts and payments between State and local governments are also excluded.

[3] Includes other taxes and charges and miscellaneous revenues.

[4] Includes expenditures for libraries, hospitals, health, employment security administration, veterans' services, air transportation, water transport and terminals, parking facilities, and transit subsidies, police protection, fire protection, correction, protective inspection and regulation, sewerage, natural resources, parks and recreation, housing and community development, solid waste management, financial administration, judicial and legal, general public buildings, other government administration, interest on general debt, and general expenditures, n.e.c.

Note.—Data for fiscal years listed from 1962–63 to 1995–96 are the aggregations of data for government fiscal years that ended in the 12-month period from July 1 to June 30 of those years. Data for 1963 and earlier years include data for government fiscal years ending during that particular calendar year.

Data are not available for intervening years.

Source: Department of Commerce, Bureau of the Census.

TABLE B–87.—*Interest-bearing public debt securities by kind of obligation, 1967–98*

[Billions of dollars]

End of year or month	Total interest-bearing public debt securities	Marketable						Nonmarketable				
		Total [1]	Treasury bills	Treasury notes	Treasury bonds	Treasury inflation-indexed		Total	U.S. savings securities [2]	Foreign series [3]	Government account series	Other [4]
						Notes	Bonds					
Fiscal year:												
1967	322.3	[5] 210.7	58.5	49.1	97.4	.....	.....	111.6	51.2	1.5	56.2	2.7
1968	344.4	226.6	64.4	71.1	91.1	.....	.....	117.8	51.7	3.7	59.5	2.8
1969	351.7	226.1	68.4	78.9	78.8	.....	.....	125.6	51.7	4.1	66.8	3.1
1970	369.0	232.6	76.2	93.5	63.0	.....	.....	136.4	51.3	4.8	76.3	4.1
1971	396.3	245.5	86.7	104.8	54.0	.....	.....	150.8	53.0	9.3	82.8	5.8
1972	425.4	257.2	94.6	113.4	49.1	.....	.....	168.2	55.9	19.0	89.6	3.7
1973	456.4	263.0	100.1	117.8	45.1	.....	.....	193.4	59.4	28.5	101.7	3.7
1974	473.2	266.6	105.0	128.4	33.1	.....	.....	206.7	61.9	25.0	115.4	4.3
1975	532.1	315.6	128.6	150.3	36.8	.....	.....	216.5	65.5	23.2	124.2	3.6
1976	619.3	392.6	161.2	191.2	39.6	.....	.....	226.7	69.7	21.5	130.6	4.9
1977	697.6	443.5	156.1	241.7	45.7	.....	.....	254.1	75.4	21.8	140.1	16.8
1978	767.0	485.2	160.9	267.9	56.4	.....	.....	281.8	79.8	21.7	153.3	27.1
1979	819.0	506.7	161.4	274.2	71.1	.....	.....	312.3	80.4	28.1	176.4	27.4
1980	906.4	594.5	199.8	310.9	83.8	.....	.....	311.9	72.7	25.2	189.8	24.2
1981	996.5	683.2	223.4	363.6	96.2	.....	.....	313.3	68.0	20.5	201.1	23.7
1982	1,140.9	824.4	277.9	442.9	103.6	.....	.....	316.5	67.3	14.6	210.5	24.1
1983	1,375.8	1,024.0	340.7	557.5	125.7	.....	.....	351.8	70.0	11.5	234.7	35.6
1984	1,559.6	1,176.6	356.8	661.7	158.1	.....	.....	383.0	72.8	8.8	259.5	41.8
1985	1,821.0	1,360.2	384.2	776.4	199.5	.....	.....	460.8	77.0	6.6	313.9	63.3
1986	2,122.7	[1] 1,564.3	410.7	896.9	241.7	.....	.....	558.4	85.6	4.1	365.9	102.8
1987	2,347.8	[1] 1,676.0	378.3	1,005.1	277.6	.....	.....	671.8	97.0	4.4	440.7	129.8
1988	2,599.9	[1] 1,802.9	398.5	1,089.6	299.9	.....	.....	797.0	106.2	6.3	536.5	148.0
1989	2,836.3	[1] 1,892.8	406.6	1,133.2	338.0	.....	.....	943.5	114.0	6.8	663.7	159.0
1990	3,210.9	[1] 2,092.8	482.5	1,218.1	377.2	.....	.....	1,118.2	122.2	36.0	779.4	180.6
1991	3,662.8	[1] 2,390.7	564.6	1,387.7	423.4	.....	.....	1,272.1	133.5	41.6	908.4	188.5
1992	4,061.8	[1] 2,677.5	634.3	1,566.3	461.8	.....	.....	1,384.3	148.3	37.0	1,011.0	188.0
1993	4,408.6	[1] 2,904.9	658.4	1,734.2	497.4	.....	.....	1,503.7	167.0	42.5	1,114.3	179.9
1994	4,689.5	[1] 3,091.6	697.3	1,867.5	511.8	.....	.....	1,597.9	176.4	42.0	1,211.7	167.8
1995	4,950.6	[1] 3,260.4	742.5	1,980.3	522.6	.....	.....	1,690.2	181.2	41.0	1,324.3	143.8
1996	5,220.8	[1] 3,418.4	761.2	2,098.7	543.5	.....	.....	1,802.4	184.1	37.5	1,454.7	126.1
1997	5,407.5	[1] 3,439.6	701.9	2,122.2	576.2	24.4	.....	1,967.9	182.7	34.9	1,608.5	141.9
1998	5,518.7	[1] 3,331.0	637.6	2,009.1	610.4	58.8	17.0	2,187.7	180.8	35.1	1,777.3	194.4
1997: Jan	5,308.0	[1] 3,441.5	762.6	2,108.9	555.0	.....	.....	1,866.6	182.6	37.1	1,514.5	132.5
Feb	5,344.1	[1] 3,477.5	762.2	2,127.6	565.4	7.4	.....	1,866.6	182.6	36.8	1,514.2	133.0
Mar	5,375.1	[1] 3,504.4	785.6	2,131.0	565.4	7.4	.....	1,870.8	182.6	36.8	1,516.6	134.8
Apr	5,348.2	[1] 3,464.5	741.4	2,126.8	565.4	15.9	.....	1,883.7	182.6	35.6	1,529.9	135.7
May	5,308.5	[1] 3,415.9	719.7	2,099.9	565.4	15.9	.....	1,892.6	182.6	35.5	1,538.2	136.2
June	5,370.5	[1] 3,433.1	704.1	2,132.6	565.4	15.9	.....	1,937.4	182.7	35.4	1,581.5	137.9
July	5,367.6	[1] 3,433.1	706.1	2,122.2	565.4	24.3	.....	1,934.5	182.7	35.2	1,580.1	136.5
Aug	5,367.6	[1] 3,430.8	722.1	2,093.2	576.2	24.4	.....	1,936.8	182.6	35.1	1,580.1	139.0
Sept	5,407.5	[1] 3,439.6	701.9	2,122.2	576.2	24.4	.....	1,967.9	182.7	34.9	1,608.5	141.9
Oct	5,421.7	[1] 3,438.7	703.0	2,111.6	576.2	32.9	.....	1,983.0	182.9	34.6	1,616.7	148.8
Nov	5,426.2	[1] 3,433.6	718.9	2,079.4	587.3	33.0	.....	1,992.6	183.1	34.5	1,623.0	152.1
Dec	5,494.9	[1] 3,456.8	715.4	2,106.0	587.3	33.0	.....	2,038.1	181.2	36.2	1,666.7	154.1
1998: Jan	5,450.0	[1] 3,398.1	688.8	2,065.5	587.3	41.4	.....	2,051.9	181.1	36.1	1,677.3	157.4
Feb	5,482.1	[1] 3,424.1	705.1	2,063.9	598.7	41.4	.....	2,057.9	181.3	35.9	1,678.6	162.2
Mar	5,535.3	[1] 3,467.1	720.1	2,091.9	598.7	41.5	.....	2,068.2	181.2	36.4	1,681.5	169.1
Apr	5,492.8	[1] 3,399.2	657.9	2,077.7	598.7	41.5	8.4	2,093.6	181.3	36.2	1,698.8	177.4
May	5,464.5	[1] 3,353.0	647.8	2,041.5	598.7	41.6	8.4	2,111.5	180.7	36.2	1,713.6	181.0
June	5,540.2	[1] 3,369.5	641.1	2,064.6	598.7	41.7	8.4	2,170.7	180.7	36.0	1,769.1	185.0
July	5,520.1	[1] 3,350.8	638.1	2,040.3	598.7	41.8	16.9	2,169.3	180.6	35.7	1,765.4	187.6
Aug	5,557.0	[1] 3,384.6	676.4	2,023.9	610.4	41.8	16.9	2,172.5	180.7	35.5	1,768.2	188.1
Sept	5,518.7	[1] 3,331.0	637.6	2,009.1	610.4	41.9	17.0	2,187.7	180.8	35.1	1,777.3	194.4
Oct	5,515.4	[1] 3,308.9	651.4	1,964.6	610.4	50.4	17.0	2,206.6	181.2	32.8	1,798.6	194.0
Nov	5,584.5	[1] 3,363.4	685.5	1,974.3	621.2	50.5	17.0	2,221.2	181.5	34.4	1,811.9	193.4
Dec	5,605.4	[1] 3,355.5	691.0	1,960.7	621.2	50.6	17.0	2,249.9	180.3	34.3	1,840.0	195.3

[1] Includes Federal Financing Bank securities, not shown separately, in the amount of 15,000 million dollars.

[2] Series previously shown as U.S. savings bonds. Beginning January 1997, includes U.S. retirement plan bonds, U.S. individual retirement bonds, and U.S. savings notes previously included in "other" nonmarketable interest-bearing public debt securities in this table. Data prior to January 1997 do not reflect this change.

[3] Nonmarketable certificates of indebtedness, notes, bonds, and bills in the Treasury foreign series of dollar-denominated and foreign-currency denominated issues.

[4] Includes depository bonds, retirement plan bonds, Rural Electrification Administration bonds, State and local bonds, and special issues held only by U.S. Government agencies and trust funds and the Federal home loan banks. See footnote 2.

[5] Includes $5,610 million in certificates not shown separately.

Note.—Through fiscal year 1976, the fiscal year was on a July 1–June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1–September 30 basis.

Source: Department of the Treasury.

TABLE B–88.—*Maturity distribution and average length of marketable interest-bearing public debt securities held by private investors, 1967–98*

End of year or month	Amount outstanding, privately held	Maturity class					Average length[1]	
		Within 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and over		
	Millions of dollars						Years	Months
Fiscal year:								
1967	150,321	56,561	53,584	21,057	6,153	12,968	5	1
1968	159,671	66,746	52,295	21,850	6,110	12,670	4	5
1969	156,008	69,311	50,182	18,078	6,097	12,337	4	2
1970	157,910	76,443	57,035	8,286	7,876	8,272	3	8
1971	161,863	74,803	58,557	14,503	6,357	7,645	3	6
1972	165,978	79,509	57,157	16,033	6,358	6,922	3	3
1973	167,869	84,041	54,139	16,385	8,741	4,564	3	1
1974	164,862	87,150	50,103	14,197	9,930	3,481	2	11
1975	210,382	115,677	65,852	15,385	8,857	4,611	2	8
1976	279,782	150,296	90,578	24,169	8,087	6,652	2	7
1977	326,674	161,329	113,319	33,067	4,428	10,531	2	11
1978	356,501	163,819	132,993	33,500	11,383	14,805	3	3
1979	380,530	181,883	127,574	32,279	18,489	20,304	3	7
1980	463,717	220,084	156,244	38,809	25,901	22,679	3	9
1981	549,863	256,187	182,237	48,743	32,569	30,127	4	0
1982	682,043	314,436	221,783	75,749	33,017	37,058	3	11
1983	862,631	379,579	294,955	99,174	40,826	48,097	4	1
1984	1,017,488	437,941	332,808	130,417	49,664	66,658	4	6
1985	1,185,675	472,661	402,766	159,383	62,853	88,012	4	11
1986	1,354,275	506,903	467,348	189,995	70,664	119,365	5	3
1987	1,445,366	483,582	526,746	209,160	72,862	153,016	5	9
1988	1,555,208	524,201	552,993	232,453	74,186	171,375	5	9
1989	1,654,660	546,751	578,333	247,428	80,616	201,532	6	0
1990	1,841,903	626,297	630,144	267,573	82,713	235,176	6	1
1991	2,113,799	713,778	761,243	280,574	84,900	273,304	6	0
1992	2,363,802	808,705	866,329	295,921	84,706	308,141	5	11
1993	2,562,336	858,135	978,714	306,663	94,345	324,479	5	10
1994	2,719,861	877,932	1,128,322	289,998	88,108	335,401	5	8
1995	2,870,781	1,002,875	1,157,492	290,111	87,297	333,006	5	4
1996	3,011,185	1,058,558	1,212,258	306,643	111,360	322,366	5	3
1997	2,998,846	1,017,913	1,206,993	321,622	154,205	298,113	5	4
1998	2,856,637	940,572	1,105,175	319,331	157,347	334,212	5	8
1997: Jan	3,025,762	1,049,217	1,230,524	302,878	128,679	314,464	5	3
Feb	3,052,688	1,062,767	1,225,904	315,125	126,023	322,870	5	4
Mar	3,082,541	1,087,199	1,224,620	323,173	125,228	322,322	5	3
Apr	2,997,163	1,035,135	1,199,000	327,320	119,853	315,855	5	3
May	2,988,194	1,024,615	1,182,510	331,276	143,676	306,117	5	5
June	2,989,260	1,007,563	1,206,304	330,005	141,299	304,090	5	4
July	3,002,678	1,016,588	1,208,014	331,086	142,476	304,514	5	4
Aug	2,995,863	1,033,763	1,184,038	321,471	155,967	300,624	5	5
Sept	2,998,846	1,017,913	1,206,993	321,622	154,205	298,113	5	4
Oct	2,998,692	1,020,602	1,200,942	320,882	154,778	301,488	5	4
Nov	2,988,004	1,039,059	1,155,293	330,129	153,997	309,526	5	5
Dec	2,988,654	1,027,280	1,170,833	328,855	153,224	308,462	5	5
1998: Jan	2,954,877	1,011,181	1,139,318	338,503	155,193	310,681	5	6
Feb	2,978,212	1,029,311	1,147,184	326,495	154,836	320,386	5	6
Mar	3,010,826	1,040,573	1,173,036	326,381	152,471	318,365	5	6
Apr	2,925,886	970,975	1,153,410	324,973	151,116	325,411	5	6
May	2,895,190	964,171	1,113,080	335,515	162,395	320,029	5	8
June	2,894,829	952,967	1,132,460	333,666	159,368	316,369	5	7
July	2,886,700	945,246	1,117,403	335,330	161,250	327,471	5	7
Aug	2,918,259	982,323	1,121,554	320,287	159,382	334,713	5	7
Sept	2,856,637	940,572	1,105,175	319,331	157,347	334,212	5	8

[1] Treasury inflation-indexed notes (first offered in 1997) and bonds (first offered in 1998) are excluded from the average length calculation.

Note.—All issues classified to final maturity.
Through fiscal year 1976, the fiscal year was on a July 1–June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1–September 30 basis.

Source: Department of the Treasury.

TABLE B–89.—*Estimated ownership of public debt securities by private investors, 1978–98*

[Par values;[1] billions of dollars]

End of month	Held by private investors											
	Total	Commercial banks[2]	Nonbank investors									
			Total	Individuals[3]			Insurance companies	Money market funds	Corporations[5]	State and local governments[6]	Foreign and international[7]	Other investors[8]
				Total	Savings bonds[4]	Other securities						
1978: June	477.8	99.6	378.2	109.0	79.1	29.9	14.2	1.3	17.3	82.6	119.5	34.3
Dec	508.6	95.3	413.3	114.0	80.7	33.3	15.3	1.5	17.3	93.1	133.1	39.0
1979: June	516.6	94.5	422.0	115.5	80.6	34.9	16.0	3.8	18.6	102.7	114.9	50.5
Dec	540.5	95.6	444.9	118.0	79.9	38.1	15.6	5.6	17.0	100.2	119.0	69.5
1980: June	558.2	98.5	459.7	116.5	73.4	43.1	15.3	5.3	14.0	100.1	118.2	90.3
Dec	616.4	111.5	504.9	117.1	72.5	44.6	18.1	3.5	19.3	114.2	129.7	103.0
1981: June	651.2	115.0	536.2	107.4	69.2	38.2	19.9	9.0	19.9	128.1	136.6	115.3
Dec	694.5	113.8	580.7	110.8	68.1	42.7	21.6	21.5	17.9	135.9	136.6	136.4
1982: June	740.9	114.7	626.2	114.1	67.4	46.7	24.4	22.4	17.6	157.9	137.2	152.6
Dec	848.4	134.0	714.4	116.5	68.3	48.2	30.6	42.6	24.5	163.2	149.5	187.5
1983: June	948.6	167.4	781.2	121.3	69.7	51.6	37.8	28.3	32.8	183.5	160.1	217.0
Dec	1,022.6	179.5	843.1	133.4	71.5	61.9	46.0	22.8	39.7	198.1	166.3	236.8
1984: June	1,102.2	180.6	921.6	142.2	72.9	69.3	51.2	14.9	45.3	218.8	171.6	277.6
Dec	1,212.5	181.5	1,031.0	143.8	74.5	69.3	64.5	25.9	50.1	233.9	205.9	306.9
1985: June	1,292.0	195.6	1,096.4	148.7	76.7	72.0	59.1	24.8	54.9	267.7	213.8	317.4
Dec	1,417.2	189.4	1,227.8	154.8	79.8	75.0	80.5	25.1	59.0	341.6	224.8	342.0
1986: June	1,502.7	194.4	1,308.3	159.5	83.8	75.7	87.9	22.8	61.2	381.2	250.9	344.8
Dec	1,602.0	197.7	1,404.3	162.7	92.3	70.4	101.6	28.6	68.8	418.6	263.4	360.6
1987: June	1,658.1	192.5	1,465.6	165.6	96.8	68.8	104.7	20.6	79.7	464.4	281.1	349.5
Dec	1,731.4	194.4	1,537.0	172.4	101.1	71.3	108.1	14.6	84.6	478.3	299.7	379.3
1988: June	1,786.7	190.8	1,595.9	182.0	106.2	75.8	113.5	13.4	87.6	482.8	345.4	371.2
Dec	1,858.5	185.3	1,673.2	190.4	109.6	80.8	118.6	11.9	86.0	488.1	362.2	416.1
1989: June	1,909.1	178.4	1,730.7	211.7	114.0	97.7	120.6	11.3	91.0	482.6	369.1	444.4
Dec	2,015.8	165.3	1,850.5	216.4	117.7	98.7	123.9	14.9	93.4	493.9	429.6	478.4
1990: June	2,141.8	177.3	1,964.5	229.6	121.9	107.7	133.7	28.0	96.9	545.2	427.3	503.8
Dec	2,288.3	172.1	2,116.2	233.8	126.2	107.6	138.2	45.5	108.9	550.3	458.4	581.1
1991: June	2,397.9	196.2	2,201.7	243.5	133.2	110.3	156.8	55.2	130.3	565.9	473.6	575.8
Dec	2,563.2	232.5	2,330.7	263.9	138.1	125.8	181.8	80.0	150.8	533.0	491.7	579.5
1992: June	2,712.4	267.0	2,445.4	275.1	145.4	129.7	192.8	79.4	175.0	576.8	529.6	616.7
Dec	2,839.9	294.4	2,545.5	289.2	157.3	131.9	197.5	79.7	192.5	566.0	549.7	670.9
1993: June	2,936.3	307.2	2,629.1	303.0	165.5	136.4	217.8	76.2	206.1	594.7	567.7	663.6
Dec	3,047.4	322.2	2,725.2	309.9	171.9	137.9	234.5	80.8	213.0	610.8	622.9	653.4
1994: Mar	3,094.6	344.4	2,750.2	315.1	175.0	140.1	233.4	69.3	216.3	614.4	633.3	668.3
June	3,088.2	330.1	2,758.1	321.1	177.1	144.0	238.0	59.9	226.3	595.9	633.2	683.7
Sept	3,127.8	313.2	2,814.6	327.2	178.6	148.6	243.7	59.9	229.3	567.7	655.8	731.0
Dec	3,168.0	290.4	2,877.6	331.1	180.5	150.7	240.1	67.6	224.5	541.0	640.7	832.6
1995: Mar	3,239.2	308.1	2,931.1	342.7	181.4	161.4	244.2	67.7	230.3	531.7	681.2	833.2
June	3,245.0	298.4	2,946.6	344.2	182.6	161.6	245.0	58.7	227.7	488.6	736.3	846.1
Sept	3,279.5	289.4	2,990.1	345.9	183.5	162.4	245.2	64.2	224.1	480.2	800.4	830.1
Dec	3,294.9	278.7	3,016.2	347.7	185.0	162.7	241.5	71.5	228.8	465.6	814.2	846.9
1996: Mar	3,382.8	284.0	3,098.8	347.2	185.8	161.4	239.4	85.7	223.0	464.8	888.7	844.0
June	3,347.3	280.2	3,067.1	347.6	186.5	161.1	229.5	82.4	230.9	474.3	912.3	790.1
Sept	3,386.2	275.0	3,111.2	353.7	196.8	167.0	226.8	85.2	249.1	453.2	978.1	765.1
Dec	3,411.2	261.8	3,149.4	356.6	187.0	169.6	214.1	91.6	258.5	447.5	1,087.6	693.5
1997: Mar	3,451.7	282.3	3,169.4	355.4	186.5	168.9	182.1	84.2	262.5	443.1	1,144.2	697.8
June	3,361.7	265.9	3,095.8	355.4	186.3	169.1	163.5	77.4	261.0	441.3	1,172.9	604.3
Sept	3,388.9	261.8	3,127.1	354.8	186.2	168.6	187.3	75.8	266.5	446.8	1,218.2	577.7
Dec	3,393.4	270.3	3,123.1	354.9	186.5	168.4	176.6	68.9	265.0	444.1	1,230.6	563.0
1998: Mar	3,430.7	278.6	3,152.1	352.1	186.3	165.8	182.2	84.8	268.1	444.5	1,240.3	579.8
June	3,330.6	263.7	3,066.9	351.1	186.0	165.0	185.0	82.7	267.2	464.7	1,248.6	467.7
Sept	3,301.0	260.0	3,041.0	352.3	186.0	166.4	188.0	84.2	271.4	469.0	1,217.2	458.9

[1] U.S. savings bonds, series A–F and J, are included at current redemption value.

[2] Includes domestically chartered banks, U.S. branches and agencies of foreign banks, New York investment companies majority owned by foreign banks, and Edge Act corporations owned by domestically chartered banks, foreign banks, and banks in U.S. affiliated territories.

[3] Includes partnerships and personal trust accounts.

[4] Includes U.S. savings notes. Sales began May 1, 1967, and were discontinued June 30, 1970.

[5] Exclusive of banks and insurance companies.

[6] This category includes nonmarketable State and local government series, Treasury securities, and holdings of State and local pension and other funds.

[7] Consists of the investments of foreign and international accounts (both official and private) in U.S. public debt issues. Reflects 1978 benchmark through December 1984; December 1984 benchmark through December 1989; December 1989 benchmark to December 1994; and December 1994 benchmark thereafter.

[8] Includes savings and loan associations, credit unions, nonprofit institutions, mutual savings banks, corporate pension trust funds, dealers and brokers, certain Government deposit accounts, and Government-sponsored enterprises.

Source: Department of the Treasury.

TABLE B–90.—*Corporate profits with inventory valuation and capital consumption adjustments, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Corporate profits with inventory valuation and capital consumption adjustments	Corporate profits tax liability	Corporate profits after tax with inventory valuation and capital consumption adjustments		
			Total	Dividends	Undistributed profits with inventory valuation and capital consumption adjustments
1959	52.9	23.6	29.2	12.7	16.5
1960	51.4	22.7	28.7	13.4	15.3
1961	52.5	22.8	29.7	14.0	15.7
1962	60.5	24.0	36.5	15.0	21.5
1963	66.3	26.2	40.1	16.1	24.0
1964	73.3	28.0	45.3	18.0	27.3
1965	84.1	30.9	53.3	20.2	33.1
1966	89.8	33.7	56.2	20.9	35.2
1967	87.4	32.7	54.7	22.1	32.7
1968	94.2	39.4	54.9	24.6	30.2
1969	90.9	39.7	51.3	25.2	26.0
1970	78.7	34.4	44.4	23.7	20.7
1971	92.0	37.7	54.3	23.7	30.5
1972	106.7	41.9	64.8	25.8	39.0
1973	120.1	49.3	70.8	28.1	42.7
1974	109.2	51.8	57.4	30.4	27.0
1975	128.2	50.9	77.3	30.1	47.2
1976	154.9	64.2	90.7	35.9	54.8
1977	184.3	73.0	111.3	40.8	70.5
1978	209.0	83.5	125.5	46.0	79.5
1979	213.1	88.0	125.1	52.5	72.6
1980	188.3	84.8	103.5	59.3	44.1
1981	207.0	81.1	125.9	69.5	56.4
1982	182.3	63.1	119.2	66.7	52.5
1983	235.2	77.2	157.9	74.4	83.6
1984	290.1	94.0	196.1	79.3	116.8
1985	304.0	96.5	207.5	83.9	123.6
1986	293.8	106.5	187.3	91.4	95.9
1987	333.2	127.1	206.1	96.0	110.0
1988	382.1	137.0	245.1	111.1	134.0
1989	380.0	141.3	238.7	134.4	104.3
1990	397.1	140.5	256.6	143.9	112.7
1991	411.3	133.4	277.9	147.2	130.8
1992	428.0	143.0	285.0	147.9	137.1
1993	492.8	165.2	327.6	157.6	170.1
1994	570.5	186.6	383.8	182.4	201.4
1995	672.4	211.0	461.4	205.3	256.1
1996	750.4	226.1	524.3	261.9	262.4
1997	817.9	246.1	571.8	275.1	296.7
1993: I	459.2	149.2	309.9	150.7	159.2
II	478.2	165.4	312.8	154.5	158.3
III	492.8	161.2	331.5	159.8	171.8
IV	541.2	184.9	356.3	165.4	191.0
1994: I	512.0	163.0	348.9	170.2	178.7
II	562.0	182.8	379.3	178.1	201.2
III	590.1	194.6	395.5	186.0	209.5
IV	617.7	206.2	411.5	195.3	216.2
1995: I	629.3	202.9	426.4	197.1	229.3
II	653.9	207.6	446.3	199.0	247.3
III	698.6	219.1	479.4	204.4	275.0
IV	707.8	214.3	493.5	220.7	272.7
1996: I	735.9	223.9	512.0	247.6	264.4
II	748.3	228.6	519.7	257.1	262.6
III	755.4	227.7	527.7	269.1	258.7
IV	762.0	224.2	537.8	273.6	264.2
1997: I	794.3	238.8	555.5	274.1	281.4
II	815.5	241.9	573.6	274.7	299.0
III	840.9	254.2	586.7	275.1	311.5
IV	820.8	249.3	571.4	276.4	295.0
1998: I	829.2	239.9	589.3	277.3	312.0
II	820.6	241.6	579.0	278.1	300.9
III	827.0	243.2	583.7	279.0	304.8

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–91.—*Corporate profits by industry, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Corporate profits with inventory valuation adjustment and without capital consumption adjustment											
	Total	Domestic industries										Rest of the world
		Total	Financial[1]			Nonfinancial						
			Total	Federal Reserve banks	Other	Total	Manufacturing[2]	Transportation and public utilities	Wholesale trade	Retail trade	Other	
1959	53.1	50.4	7.0	0.7	6.3	43.4	26.5	7.1	2.8	3.3	3.6	2.7
1960	51.0	47.8	7.7	.9	6.7	40.2	23.8	7.5	2.5	2.8	3.6	3.1
1961	51.3	48.0	7.5	.8	6.8	40.4	23.4	7.9	2.5	3.0	3.6	3.3
1962	56.4	52.6	7.6	.9	6.8	45.0	26.3	8.5	2.8	3.4	3.9	3.8
1963	61.2	57.1	7.3	1.0	6.4	49.8	29.6	9.5	2.8	3.6	4.4	4.1
1964	67.5	63.0	7.5	1.1	6.4	55.5	32.4	10.2	3.4	4.5	5.1	4.5
1965	77.6	72.9	7.9	1.3	6.5	65.0	39.7	11.0	3.8	4.9	5.6	4.7
1966	83.0	78.5	9.2	1.7	7.5	69.3	42.4	11.9	3.9	4.8	6.2	4.5
1967	80.3	75.5	9.5	2.0	7.6	66.0	39.0	10.9	4.0	5.6	6.4	4.8
1968	86.9	81.3	10.9	2.5	8.4	70.4	41.7	11.0	4.5	6.4	6.8	5.6
1969	83.2	76.6	11.6	3.1	8.5	65.0	37.0	10.6	4.8	6.4	6.2	6.6
1970	71.8	64.7	13.1	3.5	9.6	51.6	27.1	8.2	4.3	6.0	5.9	7.1
1971	85.5	77.7	15.2	3.3	11.9	62.5	34.8	8.9	5.1	7.2	6.6	7.9
1972	97.9	88.4	16.4	3.3	13.1	72.0	41.4	9.4	6.8	7.4	7.1	9.5
1973	110.9	96.0	17.5	4.5	13.0	78.5	46.7	9.0	8.0	6.6	8.2	14.9
1974	103.4	85.9	16.2	5.7	10.5	69.7	40.7	7.6	11.3	2.3	7.7	17.5
1975	129.4	114.8	15.9	5.6	10.3	98.9	54.5	10.9	13.6	8.2	11.6	14.6
1976	158.9	142.3	19.9	5.9	14.0	122.4	70.7	15.3	12.7	10.5	13.3	16.5
1977	186.8	167.7	25.7	6.1	19.6	142.0	78.5	18.5	15.4	12.4	17.1	19.1
1978	213.1	190.2	31.8	7.6	24.1	158.4	89.6	21.7	15.4	12.3	19.4	22.9
1979	220.2	185.6	31.6	9.4	22.2	153.9	88.2	16.9	18.5	9.8	20.5	34.6
1980	198.3	162.9	24.3	11.8	12.6	138.5	75.8	18.3	16.7	6.1	21.6	35.5
1981	204.1	174.4	18.7	14.4	4.3	155.7	87.5	20.1	21.9	9.8	16.3	29.7
1982	166.8	139.4	15.6	15.2	.4	123.8	63.4	20.9	19.0	13.1	7.4	27.4
1983	203.7	173.1	24.8	14.6	10.2	148.3	72.8	29.7	18.7	18.7	8.4	30.6
1984	238.5	205.8	20.5	16.4	4.1	185.3	86.6	39.7	27.8	21.5	9.8	32.7
1985	230.5	197.1	29.0	16.3	12.6	168.1	81.6	34.3	20.6	22.5	9.1	33.4
1986	234.0	199.3	36.4	15.5	20.9	162.9	60.2	38.1	22.9	23.7	18.0	34.6
1987	272.9	231.3	37.1	15.7	21.4	194.2	85.0	41.7	16.7	23.9	26.9	41.6
1988	325.0	274.3	43.0	17.6	25.4	231.2	115.1	48.7	19.3	19.6	28.5	50.7
1989	330.6	272.6	53.1	20.2	32.9	219.6	109.3	42.6	20.4	20.7	26.6	58.0
1990	358.2	292.5	68.6	21.4	47.2	223.8	112.3	43.2	17.2	20.6	30.6	65.7
1991	378.2	309.5	87.4	20.3	67.1	222.1	92.7	53.9	20.6	26.1	28.9	68.7
1992	390.9	334.0	83.7	17.8	65.9	250.3	96.3	57.8	23.0	32.2	41.0	64.9
1993	456.9	383.0	82.9	16.1	66.8	300.1	116.7	69.4	24.3	38.9	50.9	73.9
1994	519.1	445.7	69.4	17.8	51.7	376.3	151.6	83.1	29.4	46.0	66.2	73.4
1995	613.0	523.4	104.6	22.2	82.4	418.8	183.9	86.0	26.2	43.3	79.5	89.5
1996	679.0	582.6	110.7	21.8	88.9	471.8	195.6	92.7	37.9	51.8	93.8	96.4
1997	741.2	642.2	130.0	23.3	106.6	512.3	214.4	88.4	49.8	61.2	98.5	99.0
1993: I	419.2	339.7	76.6	16.4	60.2	263.1	95.8	65.5	20.5	34.7	46.5	79.5
II	444.4	374.5	84.7	16.0	68.6	298.8	115.1	68.2	26.3	36.6	43.6	69.9
III	459.8	382.7	79.4	16.0	63.4	303.3	113.8	70.0	24.8	41.4	53.3	77.1
IV	504.1	435.2	91.0	15.9	75.0	344.2	142.2	73.8	25.4	42.7	60.2	68.9
1994: I	470.8	398.9	44.1	16.1	28.1	354.7	149.7	74.0	28.1	41.6	61.3	71.9
II	510.2	437.9	72.3	16.8	55.5	365.6	138.8	82.3	33.8	47.4	63.2	72.3
III	535.0	460.7	81.3	18.2	63.1	379.5	151.6	85.1	27.3	47.2	68.3	74.2
IV	560.3	485.2	80.0	20.0	60.0	405.3	166.2	90.8	28.6	47.8	71.8	75.0
1995: I	572.6	487.5	93.9	21.7	72.2	393.6	170.3	84.2	22.8	42.5	73.8	85.1
II	595.5	502.3	104.2	22.5	81.6	398.1	176.9	84.0	21.2	41.9	74.1	93.2
III	637.4	553.9	116.0	22.4	93.6	438.0	193.0	89.3	29.7	43.5	82.4	83.4
IV	646.5	550.0	104.4	22.1	82.4	445.6	195.4	86.3	31.1	45.3	87.6	96.4
1996: I	667.0	574.4	116.5	21.6	94.9	457.9	191.6	89.6	35.6	49.7	91.3	92.6
II	677.1	583.7	116.6	21.7	95.0	467.0	195.0	96.2	31.9	52.5	91.4	93.5
III	683.0	589.4	111.7	21.8	89.9	477.7	197.3	93.9	37.7	53.8	95.1	93.6
IV	688.7	582.8	98.0	22.1	76.0	484.8	198.6	91.3	46.3	51.2	97.3	105.9
1997: I	720.5	624.0	127.7	22.6	105.1	496.3	200.8	89.8	48.3	60.8	96.6	96.4
II	740.1	634.7	128.7	23.0	105.8	506.0	215.5	87.0	50.5	59.1	93.8	105.4
III	763.7	661.4	128.6	23.6	105.0	532.8	228.9	88.3	52.7	62.7	100.1	102.3
IV	740.7	648.7	134.7	24.1	110.6	514.0	212.3	88.6	47.6	62.2	103.4	92.0
1998: I	744.3	645.8	136.3	24.5	111.8	509.4	197.1	91.7	51.5	67.4	101.8	98.6
II	731.3	633.9	134.4	24.4	110.0	499.5	194.6	87.5	53.5	67.4	96.5	97.3
III	732.1	642.2	133.2	24.7	108.5	509.0	195.0	92.7	53.9	67.1	100.2	89.9

[1] Consists of the following industries: Depository institutions; nondepository credit institutions; security and commodity brokers; insurance carriers; regulated investment companies; small business investment companies; and real estate investment trusts.

[2] See Table B–82 for industry detail.

Note.—The industry classification is on a company basis and is based on the 1987 Standard Industrial Classification (SIC) beginning 1987, and on the 1972 SIC for earlier years shown.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–92.—*Corporate profits of manufacturing industries, 1959–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Corporate profits with inventory valuation adjustment and without capital consumption adjustment												
	Total manufacturing	Durable goods							Nondurable goods				
		Total	Primary metal industries	Fabricated metal products	Industrial machinery and equipment	Electronic and other electric equipment	Motor vehicles and equipment	Other	Total	Food and kindred products	Chemicals and allied products	Petroleum and coal products	Other
1959	26.5	13.7	2.3	1.1	2.2	1.7	3.0	3.5	12.8	2.5	3.5	2.6	4.3
1960	23.8	11.7	2.0	.8	1.8	1.3	3.0	2.8	12.1	2.2	3.1	2.6	4.2
1961	23.4	11.4	1.6	1.0	1.9	1.3	2.5	3.1	12.0	2.4	3.3	2.2	4.2
1962	26.3	14.1	1.6	1.2	2.4	1.5	4.0	3.5	12.2	2.4	3.2	2.2	4.4
1963	29.6	16.4	2.0	1.3	2.5	1.6	4.9	4.0	13.2	2.7	3.7	2.2	4.7
1964	32.4	18.0	2.5	1.4	3.3	1.7	4.6	4.5	14.4	2.7	4.1	2.3	5.3
1965	39.7	23.2	3.1	2.1	4.0	2.7	6.2	5.2	16.4	2.8	4.6	2.9	6.1
1966	42.4	23.9	3.6	2.4	4.5	3.0	5.1	5.3	18.4	3.3	4.9	3.4	6.8
1967	39.0	21.2	2.7	2.5	4.1	3.0	4.0	5.0	17.8	3.2	4.3	3.9	6.4
1968	41.7	22.4	1.9	2.3	4.1	2.9	5.5	5.7	19.2	3.2	5.2	3.7	7.0
1969	37.0	19.0	1.4	2.0	3.7	2.3	4.8	4.9	18.0	3.0	4.6	3.3	7.0
1970	27.1	10.4	.8	1.1	3.0	1.3	1.3	3.0	16.8	3.2	3.9	3.6	6.1
1971	34.8	16.6	.8	1.5	3.0	1.9	5.1	4.2	18.2	3.5	4.5	3.7	6.5
1972	41.4	22.6	1.6	2.2	4.3	2.8	5.9	5.7	18.8	2.9	5.2	3.2	7.5
1973	46.7	25.0	2.3	2.6	4.7	3.2	5.9	6.3	21.7	2.5	6.1	5.2	7.9
1974	40.7	15.1	5.0	1.8	3.1	.5	.7	4.1	25.7	2.6	5.2	10.7	7.2
1975	54.5	20.3	2.7	3.2	4.8	2.6	2.2	4.8	34.1	8.6	6.3	9.8	9.4
1976	70.7	31.2	2.1	3.9	6.7	3.8	7.4	7.4	39.5	7.1	8.2	13.3	11.0
1977	78.5	37.6	1.0	4.5	8.3	5.8	9.3	8.6	41.0	6.8	7.7	12.9	13.6
1978	89.6	45.0	3.6	5.0	10.4	6.6	8.9	10.5	44.6	6.1	8.2	15.5	14.8
1979	88.3	36.5	3.5	5.2	9.1	5.4	4..	8.6	51.8	5.8	7.1	24.5	14.6
1980	75.8	17.9	2.6	4.3	7.5	5.0	–4.3	2.8	57.8	6.0	5.5	33.6	12.9
1981	87.5	18.1	3.0	4.4	8.2	4.9	.2	–2.7	69.4	9.0	7.6	38.6	14.2
1982	63.4	4.9	–4.7	2.6	3.4	1.3	–.3	2.7	58.5	7.3	4.7	31.6	14.9
1983	72.8	18.6	–5.0	3.0	3.7	3.4	5.2	8.3	54.2	6.1	6.9	22.5	18.6
1984	86.6	36.7	–.5	4.6	5.5	5.1	8.9	13.0	49.9	6.5	7.7	16.1	19.6
1985	81.6	30.1	–.8	4.7	5.5	2.5	7.3	10.8	51.6	8.6	6.1	17.3	19.6
1986	60.2	28.6	.9	5.2	2.7	2.7	4.4	12.7	31.7	7.3	8.0	–5.8	22.1
1987	85.0	40.1	2.7	5.4	4.7	6.5	3.8	17.0	45.0	11.3	15.1	–3.8	22.4
1988	115.1	49.2	5.9	6.3	9.4	5.7	5.7	16.2	65.9	11.9	19.3	10.4	24.3
1989	109.3	49.3	6.0	6.5	11.1	9.5	2.2	13.9	60.0	11.0	19.0	5.0	25.0
1990	112.3	40.9	3.3	6.2	10.2	8.4	–2.2	15.0	71.4	14.5	17.0	17.0	22.9
1991	92.7	30.5	1.3	5.4	4.3	8.9	–5.4	16.0	62.1	18.2	15.7	5.9	22.3
1992	96.3	37.1	–.1	6.5	5.6	10.0	–1.1	16.2	59.1	18.3	16.5	–1.6	26.0
1993	116.7	54.5	.3	7.4	7.5	15.3	5.5	18.6	62.2	16.5	17.4	2.3	26.0
1994	151.6	76.7	2.2	11.0	12.7	22.5	7.5	20.9	74.8	20.0	24.5	.1	30.2
1995	183.9	87.1	7.0	11.8	22.3	21.0	–.1	25.0	96.8	27.6	29.7	6.4	33.1
1996	195.6	97.2	5.4	14.2	26.1	20.1	2.4	29.0	98.5	22.0	28.8	10.9	36.7
1997	214.4	107.3	5.6	15.5	27.6	24.8	3.8	30.0	107.1	22.7	28.1	18.0	38.3
1993: I	95.8	39.1	–1.9	5.4	4.2	13.8	–.3	18.0	56.7	18.1	18.3	–6.1	26.4
II	115.1	52.9	1.2	7.3	8.1	12.4	4.7	19.2	62.2	15.9	15.2	2.7	28.3
III	113.8	55.9	–.3	7.6	9.3	16.8	4.7	17.8	57.9	16.4	15.2	3.8	22.5
IV	142.2	70.3	2.1	9.1	8.4	18.3	12.9	19.4	71.9	15.6	20.9	8.8	26.6
1994: I	149.7	77.0	2.2	10.6	9.8	20.1	14.1	20.1	72.7	19.3	22.6	.0	30.8
II	138.8	73.7	1.7	10.0	12.5	20.8	8.8	20.0	65.1	18.5	23.7	–9.2	32.1
III	151.6	73.3	2.3	10.8	12.2	23.6	3.7	20.7	78.3	19.7	24.0	4.7	29.9
IV	166.2	83.0	2.6	12.7	16.3	25.5	3.3	22.7	83.2	22.5	27.8	5.0	27.9
1995: I	170.3	85.0	6.6	11.6	20.0	21.5	2.1	23.2	85.3	25.2	26.4	1.5	32.1
II	176.9	82.1	8.0	12.3	20.4	18.9	–1.7	24.0	94.9	27.9	30.3	5.9	30.8
III	193.0	89.5	6.7	11.5	23.9	21.7	.2	25.5	103.5	28.7	31.8	10.4	32.7
IV	195.4	92.0	6.8	11.9	24.9	22.0	–.9	27.4	103.4	28.5	30.5	7.7	36.7
1996: I	191.6	91.4	5.5	13.7	27.2	17.6	.7	26.8	100.2	23.8	30.5	7.7	38.2
II	195.0	98.5	5.0	12.9	26.3	19.5	4.7	30.1	96.6	19.2	30.2	10.8	36.3
III	197.3	100.1	6.0	15.2	25.8	19.7	5.0	28.2	97.2	20.6	28.2	11.3	37.1
IV	198.6	98.8	5.1	15.1	25.2	23.4	–.8	30.7	99.8	24.2	26.4	13.8	35.3
1997: I	200.8	96.0	4.3	14.2	22.3	23.4	4.3	27.4	104.8	21.4	27.8	18.1	37.4
II	215.5	105.7	5.5	14.9	26.6	24.4	2.6	31.7	109.8	21.4	27.2	20.7	40.5
III	228.9	120.0	6.6	17.3	31.5	27.6	6.0	31.0	109.0	22.2	28.9	18.2	39.7
IV	212.3	107.5	5.8	15.7	30.1	24.0	2.1	29.8	104.8	25.9	28.4	14.9	35.7
1998: I	197.1	100.8	6.3	12.6	23.2	21.9	6.2	30.7	96.2	20.6	27.0	10.9	37.8
II	194.6	104.5	5.7	15.5	28.5	19.8	4.9	30.1	90.2	21.4	18.9	10.0	39.8
III	195.0	109.4	4.9	17.5	30.4	20.5	4.6	31.5	85.6	22.0	18.4	7.2	38.0

Note.—The industry classification is on a company basis and is based on the 1987 Standard Industrial Classification (SIC) beginning 1987 and on the 1972 SIC for earlier years shown. In the 1972 SIC, the categories shown here as "industrial machinery and equipment" and "electronic and other electric equipment" were identified as "machinery, except electrical" and "electric and electronic equipment," respectively.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–93.—*Sales, profits, and stockholders' equity, all manufacturing corporations, 1952–98*

[Billions of dollars]

Year or quarter	All manufacturing corporations				Durable goods industries				Nondurable goods industries			
	Sales (net)	Profits		Stockholders' equity[2]	Sales (net)	Profits		Stockholders' equity[2]	Sales (net)	Profits		Stockholders' equity[2]
		Before income taxes[1]	After income taxes			Before income taxes[1]	After income taxes			Before income taxes[1]	After income taxes	
1952	250.2	22.9	10.7	103.7	122.0	12.9	5.5	49.8	128.0	10.0	5.2	53.9
1953	265.9	24.4	11.3	108.2	137.9	14.0	5.8	52.4	128.0	10.4	5.5	55.7
1954	248.5	20.9	11.2	113.1	122.8	11.4	5.6	54.9	125.7	9.6	5.6	58.2
1955	278.4	28.6	15.1	120.1	142.1	16.5	8.1	58.8	136.3	12.1	7.0	61.3
1956	307.3	29.8	16.2	131.6	159.5	16.5	8.3	65.2	147.8	13.2	7.8	66.4
1957	320.0	28.2	15.4	141.1	166.0	15.8	7.9	70.5	154.1	12.4	7.5	70.6
1958	305.3	22.7	12.7	147.4	148.6	11.4	5.8	72.8	156.7	11.3	6.9	74.6
1959	338.0	29.7	16.3	157.1	169.4	15.8	8.1	77.9	168.5	13.9	8.3	79.2
1960	345.7	27.5	15.2	165.4	173.9	14.0	7.0	82.3	171.8	13.5	8.2	83.1
1961	356.4	27.5	15.3	172.6	175.2	13.6	6.9	84.9	181.2	13.9	8.5	87.7
1962	389.4	31.9	17.7	181.4	195.3	16.8	8.6	89.1	194.1	15.1	9.2	92.3
1963	412.7	34.9	19.5	189.7	209.0	18.5	9.5	93.3	203.6	16.4	10.0	96.3
1964	443.1	39.6	23.2	199.8	226.3	21.2	11.6	98.5	216.8	18.3	11.6	101.3
1965	492.2	46.5	27.5	211.7	257.0	26.2	14.5	105.4	235.2	20.3	13.0	106.3
1966	554.2	51.8	30.9	230.3	291.7	29.2	16.4	115.2	262.4	22.6	14.6	115.1
1967	575.4	47.8	29.0	247.6	300.6	25.7	14.6	125.0	274.8	22.0	14.4	122.6
1968	631.9	55.4	32.1	265.9	335.5	30.6	16.5	135.6	296.4	24.8	15.5	130.3
1969	694.6	58.1	33.2	289.9	366.5	31.5	16.9	147.6	328.1	26.6	16.4	142.3
1970	708.8	48.1	28.6	306.8	363.1	23.0	12.9	155.1	345.7	25.2	15.7	151.7
1971	751.1	52.9	31.0	320.8	381.8	26.5	14.5	160.4	369.3	26.5	16.5	160.5
1972	849.5	63.2	36.5	343.4	435.8	33.6	18.4	171.4	413.7	29.6	18.0	172.0
1973	1,017.2	81.4	48.1	374.1	527.3	43.6	24.8	188.7	489.9	37.8	23.3	185.4
1973: IV	275.1	21.4	13.0	386.4	140.1	10.8	6.3	194.7	135.0	10.6	6.7	191.7
New series:												
1973: IV	236.6	20.6	13.2	368.0	122.7	10.1	6.2	185.8	113.9	10.5	7.0	182.1
1974	1,060.6	92.1	58.7	395.0	529.0	41.1	24.7	196.0	531.6	51.0	34.1	199.0
1975	1,065.2	79.9	49.1	423.4	521.1	35.3	21.4	208.1	544.1	44.6	27.7	215.3
1976	1,203.2	104.9	64.5	462.7	589.6	50.7	30.8	224.3	613.7	54.3	33.7	238.4
1977	1,328.1	115.1	70.4	496.7	657.3	57.9	34.8	239.9	670.8	57.2	35.5	256.8
1978	1,496.4	132.5	81.1	540.5	760.7	69.6	41.8	262.6	735.7	62.9	39.3	277.9
1979	1,741.8	154.2	98.7	600.5	865.7	72.4	45.2	292.5	876.1	81.8	53.5	308.0
1980	1,912.8	145.8	92.6	668.1	884.1	57.4	35.6	317.7	1,023.7	88.4	56.9	350.4
1981	2,144.7	158.6	101.3	743.4	979.5	67.2	41.6	350.4	1,165.2	91.3	59.6	393.0
1982	2,039.4	108.2	70.9	770.2	913.1	34.7	21.7	355.5	1,126.4	73.6	49.3	414.7
1983	2,114.3	133.1	85.8	812.8	973.5	48.7	30.0	372.4	1,140.8	84.4	55.8	440.4
1984	2,335.0	165.6	107.6	864.2	1,107.6	75.5	48.9	395.6	1,227.5	90.0	58.8	468.5
1985	2,331.4	137.0	87.6	866.2	1,142.6	61.5	38.6	420.9	1,188.8	75.6	49.1	445.3
1986	2,220.9	129.3	83.1	874.7	1,125.5	52.1	32.6	436.3	1,095.4	77.2	50.5	438.4
1987	2,378.2	173.0	115.6	900.9	1,178.0	78.0	53.0	444.3	1,200.3	95.1	62.6	456.6
1988[3]	2,596.2	215.3	153.8	957.6	1,284.7	91.6	66.9	468.7	1,311.5	123.7	86.8	488.9
1989	2,745.1	187.6	135.1	999.0	1,356.6	75.1	55.5	501.3	1,388.5	112.6	79.6	497.7
1990	2,810.7	158.1	110.1	1,043.8	1,357.2	57.3	40.7	515.0	1,453.5	100.8	69.4	528.9
1991	2,761.1	98.7	66.4	1,064.1	1,304.0	13.9	7.2	506.8	1,457.1	84.8	59.3	557.4
1992[4]	2,890.2	31.4	22.1	1,034.7	1,389.8	–33.7	–24.0	473.9	1,500.4	65.1	46.0	560.8
1993	3,015.1	117.9	83.2	1,039.7	1,490.2	38.9	27.4	482.7	1,524.9	79.0	55.7	557.1
1994	3,255.8	243.5	174.9	1,110.1	1,657.6	121.0	87.1	533.3	1,598.2	122.5	87.8	576.8
1995	3,528.3	274.5	198.2	1,240.6	1,807.7	130.6	94.3	613.7	1,720.6	143.9	103.9	627.0
1996	3,757.6	306.6	224.9	1,348.0	1,941.6	146.6	106.1	673.9	1,816.0	160.0	118.8	674.2
1997	3,922.2	331.1	244.1	1,464.2	2,075.6	166.8	121.2	743.5	1,846.6	164.3	122.9	720.8
1996: I	884.8	69.8	50.7	1,299.4	457.5	31.7	22.6	644.2	427.3	38.1	28.2	655.2
II	948.4	82.2	58.9	1,328.1	492.5	42.7	30.9	665.0	455.9	39.5	28.0	663.1
III	946.6	84.2	62.1	1,358.6	484.0	38.0	27.6	680.5	462.6	46.2	34.5	678.0
IV	977.7	70.5	53.2	1,406.0	507.6	34.2	25.0	705.8	470.1	36.3	28.2	700.2
1997: I	935.2	82.5	60.6	1,429.3	487.7	38.9	27.0	722.7	447.5	43.6	33.6	706.5
II	987.8	92.4	66.9	1,458.6	527.8	49.5	36.3	736.7	460.1	42.8	30.5	721.9
III	986.0	86.9	62.5	1,483.8	519.5	42.0	29.5	758.4	466.6	44.9	33.0	725.4
IV	1,013.2	69.4	54.2	1,485.2	540.7	36.5	28.4	756.0	472.5	33.0	25.8	729.2
1998: I	955.5	95.3	73.5	1,503.1	515.7	55.5	44.2	764.7	439.8	39.8	29.4	738.4
II	997.1	78.3	56.6	1,517.4	541.1	36.5	25.3	771.3	456.0	41.8	31.3	746.2
III	986.0	82.3	61.2	1,522.2	532.3	39.4	28.2	781.5	453.7	42.8	33.1	740.7

[1] In the old series, "income taxes" refers to Federal income taxes only, as State and local income taxes had already been deducted. In the new series, no income taxes have been deducted.

[2] Annual data are average equity for the year (using four end-of-quarter figures).

[3] Beginning 1988, profits before and after income taxes reflect inclusion of minority stockholders' interest in net income before and after income taxes.

[4] Data for 1992 (most significantly 1992:I) reflect the early adoption of Financial Accounting Standards Board Statement 106 (Employer's Accounting for Post-Retirement Benefits Other Than Pensions) by a large number of companies during the fourth quarter of 1992. Data for 1993:I also reflect adoption of Statement 106. Corporations must show the cumulative effect of a change in accounting principle in the first quarter of the year in which the change is adopted.

Note.—Data are not necessarily comparable from one period to another due to changes in accounting principles, industry classifications, sampling procedures, etc. For explanatory notes concerning compilation of the series, see "Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations," Department of Commerce, Bureau of the Census.

Source: Department of Commerce, Bureau of the Census.

TABLE B–94.—*Relation of profits after taxes to stockholders' equity and to sales, all manufacturing corporations, 1947–98*

Year or quarter	Ratio of profits after income taxes (annual rate) to stockholders' equity—percent[1]			Profits after income taxes per dollar of sales—cents		
	All manufacturing corporations	Durable goods industries	Nondurable goods industries	All manufacturing corporations	Durable goods industries	Nondurable goods industries
1947	15.6	14.4	16.6	6.7	6.7	6.7
1948	16.0	15.7	16.2	7.0	7.1	6.8
1949	11.6	12.1	11.2	5.8	6.4	5.4
1950	15.4	16.9	14.1	7.1	7.7	6.5
1951	12.1	13.0	11.2	4.9	5.3	4.5
1952	10.3	11.1	9.7	4.3	4.5	4.1
1953	10.5	11.1	9.9	4.3	4.2	4.3
1954	9.9	10.3	9.6	4.5	4.6	4.4
1955	12.6	13.8	11.4	5.4	5.7	5.1
1956	12.3	12.8	11.8	5.3	5.2	5.3
1957	10.9	11.3	10.6	4.8	4.8	4.9
1958	8.6	8.0	9.2	4.2	3.9	4.4
1959	10.4	10.4	10.4	4.8	4.8	4.9
1960	9.2	8.5	9.8	4.4	4.0	4.8
1961	8.9	8.1	9.6	4.3	3.9	4.7
1962	9.8	9.6	9.9	4.5	4.4	4.7
1963	10.3	10.1	10.4	4.7	4.5	4.9
1964	11.6	11.7	11.5	5.2	5.1	5.4
1965	13.0	13.8	12.2	5.6	5.7	5.5
1966	13.4	14.2	12.7	5.6	5.6	5.6
1967	11.7	11.7	11.8	5.0	4.8	5.3
1968	12.1	12.2	11.9	5.1	4.9	5.2
1969	11.5	11.4	11.5	4.8	4.6	5.0
1970	9.3	8.3	10.3	4.0	3.5	4.5
1971	9.7	9.0	10.3	4.1	3.8	4.5
1972	10.6	10.8	10.5	4.3	4.2	4.4
1973	12.8	13.1	12.6	4.7	4.7	4.8
1973: IV	13.4	12.9	14.0	4.7	4.5	5.0
New series:						
1973: IV	14.3	13.3	15.3	5.6	5.0	6.1
1974	14.9	12.6	17.1	5.5	4.7	6.4
1975	11.6	10.3	12.9	4.6	4.1	5.1
1976	13.9	13.7	14.2	5.4	5.2	5.5
1977	14.2	14.5	13.8	5.3	5.3	5.3
1978	15.0	16.0	14.2	5.4	5.5	5.3
1979	16.4	15.4	17.4	5.7	5.2	6.1
1980	13.9	11.2	16.3	4.8	4.0	5.6
1981	13.6	11.9	15.2	4.7	4.2	5.1
1982	9.2	6.1	11.9	3.5	2.4	4.4
1983	10.6	8.1	12.7	4.1	3.1	4.9
1984	12.5	12.4	12.5	4.6	4.4	4.8
1985	10.1	9.2	11.0	3.8	3.4	4.1
1986	9.5	7.5	11.5	3.7	2.9	4.6
1987	12.8	11.9	13.7	4.9	4.5	5.2
1988[2]	16.1	14.3	17.8	5.9	5.2	6.6
1989	13.5	11.1	16.0	4.9	4.1	5.7
1990	10.6	7.9	13.1	3.9	3.0	4.8
1991	6.2	1.4	10.6	2.4	.5	4.1
1992[3]	2.1	-5.1	8.2	.8	-1.7	3.1
1993	8.0	5.7	10.0	2.8	1.8	3.7
1994	15.8	16.3	15.2	5.4	5.3	5.5
1995	16.0	15.4	16.6	5.6	5.2	6.0
1996	16.7	15.7	17.6	6.0	5.5	6.5
1997	16.7	16.3	17.0	6.2	5.8	6.7
1996: I	15.6	14.0	17.2	5.7	4.9	6.6
II	17.7	18.6	16.9	6.2	6.3	6.1
III	18.3	16.2	20.3	6.6	5.7	7.5
IV	15.1	14.2	16.1	5.4	4.9	6.0
1997: I	17.0	15.0	19.0	6.5	5.5	7.5
II	18.3	19.7	16.9	6.8	6.9	6.6
III	16.8	15.5	18.2	6.3	5.7	7.1
IV	14.6	15.0	14.1	5.3	5.2	5.5
1998: I	19.6	23.1	15.9	7.7	8.6	6.7
II	14.9	13.1	16.8	5.7	4.7	6.9
III	16.1	14.4	17.9	6.2	5.3	7.3

[1] Annual ratios based on average equity for the year (using four end-of-quarter figures). Quarterly ratios based on equity at end of quarter.
[2] See footnote 3, Table B–93.
[3] See footnote 4, Table B–93.

Note.—Based on data in millions of dollars.
See Note, Table B–93.

Source: Department of Commerce, Bureau of the Census.

TABLE B–95.—*Common stock prices and yields, 1956–98*

Year or month	Common stock prices[1]							Common stock yields (S&P) (percent)[4]	
	New York Stock Exchange indexes (Dec. 31, 1965=50)[2]					Dow Jones industrial average[2]	Standard & Poor's composite index (1941–43=10)[2]	Dividend-price ratio[5]	Earnings-price ratio[6]
	Composite	Industrial	Transportation	Utility[3]	Finance				
1956	24.40	.....	.....	.....	.....	493.01	46.62	4.09	7.55
1957	23.67	.....	.....	.....	.....	475.71	44.38	4.35	7.89
1958	24.56	.....	.....	.....	.....	491.66	46.24	3.97	6.23
1959	30.73	.....	.....	.....	.....	632.12	57.38	3.23	5.78
1960	30.01	.....	.....	.....	.....	618.04	55.85	3.47	5.90
1961	35.37	.....	.....	.....	.....	691.55	66.27	2.98	4.62
1962	33.49	.....	.....	.....	.....	639.76	62.38	3.37	5.82
1963	37.51	.....	.....	.....	.....	714.81	69.87	3.17	5.50
1964	43.76	.....	.....	.....	.....	834.05	81.37	3.01	5.22
1965	47.39	.....	.....	.....	.....	910.88	88.17	3.00	5.59
1966	46.15	46.18	50.26	90.81	44.45	873.60	85.26	3.40	6.63
1967	50.77	51.97	53.51	90.86	49.82	879.12	91.93	3.20	5.73
1968	55.37	58.00	50.58	88.38	65.85	906.00	98.70	3.07	5.67
1969	54.67	57.44	46.96	85.60	70.49	876.72	97.84	3.24	6.08
1970	45.72	48.03	32.14	74.47	60.00	753.19	83.22	3.83	6.45
1971	54.22	57.92	44.35	79.05	70.38	884.76	92.25	3.14	5.41
1972	60.29	65.73	50.17	76.95	78.35	950.71	109.20	2.84	5.50
1973	57.42	63.08	37.74	75.38	70.12	923.88	107.43	3.06	7.12
1974	43.84	48.08	31.89	59.58	49.67	759.37	82.85	4.47	11.59
1975	45.73	50.52	31.10	63.00	47.14	802.49	86.16	4.31	9.15
1976	54.46	60.44	39.57	73.94	52.94	974.92	102.01	3.77	8.90
1977	53.69	57.86	41.09	81.84	55.25	894.63	98.20	4.62	10.79
1978	53.70	58.23	43.50	78.44	56.65	820.23	96.02	5.28	12.03
1979	58.32	64.76	47.34	76.41	61.42	844.40	103.01	5.47	13.46
1980	68.10	78.70	60.61	74.69	64.25	891.41	118.78	5.26	12.66
1981	74.02	85.44	72.61	77.81	73.52	932.92	128.05	5.20	11.96
1982	68.93	78.18	60.41	79.49	71.99	884.36	119.71	5.81	11.60
1983	92.63	107.45	89.36	93.99	95.34	1,190.34	160.41	4.40	8.03
1984	92.46	108.01	85.63	92.89	89.28	1,178.48	160.46	4.64	10.02
1985	108.09	123.79	104.11	113.49	114.21	1,328.23	186.84	4.25	8.12
1986	136.00	155.85	119.87	142.72	147.20	1,792.76	236.34	3.49	6.09
1987	161.70	195.31	140.39	148.59	146.48	2,275.99	286.83	3.08	5.48
1988	149.91	180.95	134.12	143.53	127.26	2,060.82	265.79	3.64	8.01
1989	180.02	216.23	175.28	174.87	151.88	2,508.91	322.84	3.45	7.42
1990	183.46	225.78	158.62	181.20	133.26	2,678.94	334.59	3.61	6.47
1991	206.33	258.14	173.99	185.32	150.82	2,929.33	376.18	3.24	4.79
1992	229.01	284.62	201.09	198.91	179.26	3,284.29	415.74	2.99	4.22
1993	249.58	299.99	242.49	228.90	216.42	3,522.06	451.41	2.78	4.46
1994	254.12	315.25	247.29	209.06	209.73	3,793.77	460.42	2.82	5.83
1995	291.15	367.34	269.41	220.30	238.45	4,493.76	541.72	2.56	6.09
1996	358.17	453.98	327.33	249.77	303.89	5,742.89	670.50	2.19	5.24
1997	456.54	574.52	414.60	283.82	424.48	7,441.15	873.43	1.77	4.57
1998	550.26	681.57	468.69	378.12	516.35	8,625.52	1,085.50	1.49	.....
1997: Jan	403.58	509.64	359.40	263.91	361.45	6,707.03	766.22	1.95	.....
Feb	418.57	524.30	364.15	271.36	388.75	6,917.48	798.39	1.89	.....
Mar	416.72	523.08	372.87	264.78	387.21	6,901.12	792.16	1.91	5.31
Apr	401.00	506.69	366.67	253.18	364.25	6,657.50	763.93	1.98	.....
May	433.36	549.65	395.50	268.18	392.32	7,242.36	833.09	1.85	.....
June	457.07	578.57	410.94	280.48	419.12	7,599.60	876.29	1.77	4.58
July	480.94	610.42	433.75	268.51	441.59	7,990.65	925.29	1.66	.....
Aug	481.53	609.54	439.71	287.63	446.93	7,948.43	927.74	1.65	.....
Sept	489.74	617.94	451.63	291.87	459.86	7,866.59	937.02	1.65	4.29
Oct	499.25	625.22	466.04	302.83	476.70	7,875.82	951.16	1.61	.....
Nov	492.08	615.57	453.49	307.52	465.29	7,677.36	938.92	1.65	.....
Dec	504.66	623.57	461.04	325.60	490.30	7,909.82	962.37	1.62	4.09
1998: Jan	504.13	624.61	458.49	332.50	479.81	7,808.35	963.36	1.62	.....
Feb	532.15	660.91	485.73	341.91	508.97	8,323.61	1,023.74	1.55	.....
Mar	560.70	693.13	508.06	367.48	539.47	8,709.47	1,076.83	1.48	3.59
Apr	578.05	711.89	523.73	378.92	563.07	9,037.44	1,112.20	1.43	.....
May	574.46	712.39	505.02	372.62	551.28	9,080.07	1,108.42	1.45	.....
June	569.76	704.14	492.98	376.51	548.57	8,872.96	1,108.39	1.45	3.44
July	586.39	718.54	503.89	388.78	579.67	9,097.14	1,156.58	1.39	.....
Aug	539.16	665.66	441.36	372.48	511.22	8,478.52	1,074.62	1.48	.....
Sept	506.56	629.51	408.75	372.33	454.28	7,909.79	1,020.64	1.56	3.75
Oct	511.49	636.62	396.61	390.17	448.12	8,164.47	1,032.47	1.59	.....
Nov	564.26	704.46	442.95	412.59	501.45	9,005.75	1,144.43	1.43	.....
Dec	576.05	717.00	456.70	431.14	510.31	9,018.68	1,190.05	1.37	.....

[1] Averages of daily closing prices, except NYSE data through May 1964 are averages of weekly closing prices.

[2] Includes stocks as follows: for NYSE, all stocks listed (more than 3,500); for Dow-Jones industrial average, 30 stocks; and for S&P composite index, 500 stocks.

[3] Effective April 1993, the NYSE doubled the value of the utility index to facilitate trading of options and futures on the index. Annual indexes prior to 1993 reflect the doubling.

[4] Based on 500 stocks in the S&P composite index.

[5] Aggregate cash dividends (based on latest known annual rate) divided by aggregate market value based on Wednesday closing prices. Monthly data are averages of weekly figures; annual data are averages of monthly figures.

[6] Quarterly data are ratio of earnings (after taxes) for 4 quarters ending with particular quarter to price index for last day of that quarter. Annual data are averages of quarterly ratios.

Note.—All data relate to stocks listed on the New York Stock Exchange.

Sources: New York Stock Exchange (NYSE), Dow Jones & Co., Inc., and Standard & Poor's Corporation (S&P).

TABLE B–96.—*Business formation and business failures, 1955–98*

Year or month	Index of net business formation (1967=100)	New business incorporations (number)	Business failures[1]						
			Business failure rate[2]	Number of failures			Amount of current liabilities (millions of dollars)		
				Total	Liability size class		Total	Liability size class	
					Under $100,000	$100,000 and over		Under $100,000	$100,000 and over
1955	96.6	139,915	42	10,969	10,113	856	449.4	206.4	243.0
1956	94.6	141,163	48	12,686	11,615	1,071	562.7	239.8	322.9
1957	90.5	137,112	52	13,739	12,547	1,192	615.3	267.1	348.2
1958	90.2	150,781	56	14,964	13,499	1,465	728.3	297.6	430.7
1959	97.9	193,067	52	14,053	12,707	1,346	692.8	278.9	413.9
1960	94.5	182,713	57	15,445	13,650	1,795	938.6	327.2	611.4
1961	90.8	181,535	64	17,075	15,006	2,069	1,090.1	370.1	720.0
1962	92.6	182,057	61	15,782	13,772	2,010	1,213.6	346.5	867.1
1963	94.4	186,404	56	14,374	12,192	2,182	1,352.6	321.0	1,031.6
1964	98.2	197,724	53	13,501	11,346	2,155	1,329.2	313.6	1,015.6
1965	99.8	203,897	53	13,514	11,340	2,174	1,321.7	321.7	1,000.0
1966	99.3	200,010	52	13,061	10,833	2,228	1,385.7	321.5	1,064.1
1967	100.0	206,569	49	12,364	10,144	2,220	1,265.2	297.9	967.3
1968	108.3	223,635	39	9,636	7,829	1,807	941.0	241.1	699.9
1969	115.8	274,267	37	9,154	7,192	1,962	1,142.1	231.3	910.8
1970	108.8	264,209	44	10,748	8,019	2,729	1,887.8	269.3	1,618.4
1971	111.1	287,577	42	10,326	7,611	2,715	1,916.9	271.3	1,645.6
1972	119.3	315,501	38	9,566	7,040	2,526	2,000.2	258.8	1,741.5
1973	119.1	329,358	36	9,345	6,627	2,718	2,298.6	235.6	2,063.0
1974	113.2	319,149	38	9,915	6,733	3,182	3,053.1	256.9	2,796.3
1975	109.9	326,345	43	11,432	7,504	3,928	4,380.2	298.6	4,081.6
1976	120.4	375,766	35	9,628	6,176	3,452	3,011.3	257.8	2,753.4
1977	130.8	436,170	28	7,919	4,861	3,058	3,095.3	208.3	2,887.0
1978	138.1	478,019	24	6,619	3,712	2,907	2,656.0	164.7	2,491.3
1979	138.3	524,565	28	7,564	3,930	3,634	2,667.4	179.9	2,487.5
1980	129.9	533,520	42	11,742	5,682	6,060	4,635.1	272.5	4,362.6
1981	124.8	581,242	61	16,794	8,233	8,561	6,955.2	405.8	6,549.3
1982	116.4	566,942	88	24,908	11,509	13,399	15,610.8	541.7	15,069.1
1983	117.5	600,420	110	31,334	15,572	15,762	16,072.9	635.1	15,437.8
1984	121.3	634,991	107	52,078	33,527	18,551	29,268.6	409.8	28,858.8
1985	120.9	664,235	115	57,253	36,551	20,702	36,937.4	423.9	36,513.5
1986	120.4	702,738	120	61,616	38,908	22,708	44,724.0	838.3	43,885.7
1987	121.2	685,572	102	61,111	38,949	22,162	34,723.8	746.0	33,977.8
1988	124.1	685,095	98	57,097	38,300	18,797	39,573.0	686.9	38,886.1
1989	124.8	676,565	65	50,361	33,312	17,049	42,328.8	670.5	41,658.2
1990	120.2	647,366	74	60,747	40,833	19,914	56,130.1	735.6	55,394.5
1991	115.2	628,604	107	88,140	60,617	27,523	96,825.3	1,044.9	95,780.4
1992	116.3	666,865	110	97,069	68,264	28,805	94,317.5	1,096.7	93,220.8
1993	121.1	706,537	109	86,133	61,188	24,945	47,755.5	947.6	46,807.9
1994	125.5	741,778	86	71,558	50,814	20,744	28,977.9	845.0	28,132.9
1995	(3)	766,988	82	71,128	49,495	21,633	37,283.6	866.1	36,417.4
1996	(3)	786,482	80	71,931	49,667	22,264	29,568.7	914.9	28,653.8
1997	(3)	798,775	88	83,384	56,050	27,334	37,436.9	1,111.3	36,325.6
	Seasonally adjusted								
1997: Jan	(3)	72,992	.....	7,359	4,956	2,403	3,526.2	92.1	3,434.2
Feb	(3)	69,265	.....	6,793	4,532	2,261	1,220.9	88.2	1,132.7
Mar	(3)	63,587	.....	7,435	4,933	2,502	1,405.5	99.4	1,306.2
Apr	(3)	67,587	.....	7,645	5,074	2,571	2,782.8	108.4	2,674.4
May	(3)	65,354	.....	7,181	4,824	2,357	1,574.0	97.2	1,476.8
June	(3)	62,756	.....	6,890	4,684	2,206	1,225.4	94.5	1,130.8
July	(3)	72,707	.....	7,265	4,843	2,422	3,180.0	98.3	3,081.7
Aug	(3)	60,465	.....	6,825	4,690	2,135	1,822.2	86.4	1,735.8
Sept	(3)	66,819	.....	7,146	4,785	2,361	3,292.9	94.1	3,198.7
Oct	(3)	69,945	.....	7,426	5,071	2,355	1,406.7	99.2	1,307.5
Nov	(3)	58,154	.....	6,022	4,021	2,001	1,715.5	80.3	1,635.2
Dec	(3)	69,041	.....	5,231	3,563	1,668	1,817.8	72.5	1,745.3
1998: Jan	(3)	66,416	.....	6,229	4,574	1,655	2,985.4	65.3	2,920.0
Feb	(3)	66,125	.....	5,847	4,624	1,223	2,472.8	47.8	2,425.0
Mar	(3)	63,408	.....	6,345	4,817	1,528	1,033.0	60.1	972.9
Apr	(3)	.....	.....	6,560	4,286	2,274	1,114.6	87.4	1,027.2
May	(3)	.....	.....	5,904	3,962	1,942	1,392.4	83.7	1,308.7
June	(3)	.....	.....	6,281	4,151	2,130	1,311.2	85.9	1,225.3
July	(3)	.....	.....	6,575	4,378	2,197	2,535.4	89.7	2,445.8
Aug	(3)	.....	.....	5,810	3,944	1,866	1,613.3	76.8	1,536.5
Sept	(3)	.....	.....	5,682	3,715	1,967	2,578.6	81.1	2,497.4
Oct	(3)	.....	.....	5,590	3,684	1,906	1,042.0	81.5	960.5

[1] Commercial and industrial failures only through 1983, excluding failures of banks, railroads, real estate, insurance, holding, and financial companies, steamship lines, travel agencies, etc.
Data beginning 1984 are based on expanded coverage and new methodology and are therefore not generally comparable with earlier data.
Data for 1997 and 1998 are preliminary and subject to revision.
[2] Failure rate per 10,000 listed enterprises.
[3] Series discontinued in 1995.

Sources: Department of Commerce (Bureau of Economic Analysis) and The Dun & Bradstreet Corporation.

TABLE B–97.—*Farm income, 1945–98*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Income of farm operators from farming						
	Gross farm income					Production expenses	Net farm income
	Total[1]	Cash marketing receipts			Value of inventory changes[2]		
		Total	Livestock and products	Crops			
1945	25.4	21.7	12.0	9.7	–0.4	13.1	12.3
1946	29.6	24.8	13.8	11.0	.0	14.5	15.1
1947	32.4	29.6	16.5	13.1	–1.8	17.0	15.4
1948	36.5	30.2	17.1	13.1	1.7	18.8	17.7
1949	30.8	27.8	15.4	12.4	–.9	18.0	12.8
1950	33.1	28.5	16.1	12.4	.8	19.5	13.6
1951	38.3	32.9	19.6	13.2	1.2	22.3	15.9
1952	37.8	32.5	18.2	14.3	.9	22.8	15.0
1953	34.4	31.0	16.9	14.1	–.6	21.5	13.0
1954	34.2	29.8	16.3	13.6	.5	21.8	12.4
1955	33.5	29.5	16.0	13.5	.2	22.2	11.3
1956	34.0	30.4	16.4	14.0	–.5	22.7	11.3
1957	34.8	29.7	17.4	12.3	.6	23.7	11.1
1958	39.0	33.5	19.2	14.2	.8	25.8	13.2
1959	37.9	33.6	18.9	14.7	.0	27.2	10.7
1960	38.6	34.0	19.0	15.0	.4	27.4	11.2
1961	40.5	35.2	19.5	15.7	.3	28.6	12.0
1962	42.3	36.5	20.2	16.3	.6	30.3	12.1
1963	43.4	37.5	20.0	17.4	.6	31.6	11.8
1964	42.3	37.3	19.9	17.4	–.8	31.8	10.5
1965	46.5	39.4	21.9	17.5	1.0	33.6	12.9
1966	50.5	43.4	25.0	18.4	–.1	36.5	14.0
1967	50.5	42.8	24.4	18.4	.7	38.2	12.3
1968	51.8	44.2	25.5	18.7	.1	39.5	12.3
1969	56.4	48.2	28.6	19.6	.1	42.1	14.3
1970	58.8	50.5	29.5	21.0	.0	44.5	14.4
1971	62.1	52.7	30.5	22.3	1.4	47.1	15.0
1972	71.1	61.1	35.6	25.5	.9	51.7	19.5
1973	98.9	86.9	45.8	41.1	3.4	64.6	34.4
1974	98.2	92.4	41.3	51.1	–1.6	71.0	27.3
1975	100.6	88.9	43.1	45.8	3.4	75.0	25.5
1976	102.9	95.4	46.3	49.0	–1.5	82.7	20.2
1977	108.8	96.2	47.6	48.6	1.1	88.9	19.9
1978	128.4	112.4	59.2	53.2	1.9	103.2	25.2
1979	150.7	131.5	69.2	62.3	5.0	123.3	27.4
1980	149.3	139.7	68.0	71.7	–6.3	133.1	16.1
1981	166.3	141.6	69.2	72.5	6.5	139.4	26.9
1982	164.1	142.6	70.3	72.3	–1.4	140.3	23.8
1983	153.9	136.8	69.6	67.2	–10.9	139.6	14.2
1984	168.0	142.8	72.9	69.9	6.0	142.0	26.0
1985	161.2	144.1	69.8	74.3	–2.3	132.6	28.6
1986	156.1	135.4	71.6	63.8	–2.2	125.2	30.9
1987	168.4	141.8	76.0	65.8	–2.3	131.0	37.4
1988	177.9	151.2	79.6	71.6	–4.1	139.9	38.0
1989	191.9	160.8	83.9	76.9	3.8	146.7	45.3
1990	198.0	169.5	89.2	80.3	3.3	153.3	44.7
1991	191.9	167.9	85.8	82.1	–.2	153.3	38.6
1992	200.5	171.4	85.6	85.7	4.2	152.9	47.5
1993	204.1	177.8	90.2	87.6	–4.2	160.5	43.6
1994	215.8	181.2	88.2	93.1	8.3	167.5	48.3
1995	210.1	188.1	87.0	101.1	–5.1	174.1	36.0
1996	235.8	199.6	93.0	106.6	7.8	182.4	53.4
1997	238.3	208.7	96.6	112.1	–.4	188.4	49.8
1998*r*	233.1	198.0	93.4	104.7	–1.0	185.1	48.0

[1] Cash marketing receipts and inventory changes plus Government payments, other farm cash income, and nonmoney income produced by farms.

[2] Physical changes in end-of-period inventory of crop and livestock commodities valued at average prices during the period.

Note.—Data include net Commodity Credit Corporation loan transactions and operator residences.
Data for 1998 are forecasts.

Source: Department of Agriculture, Economic Research Service.

TABLE B–98.—*Farm business balance sheet, 1950–97*

[Billions of dollars]

End of year	Assets								Claims			
	Total assets	Physical assets					Financial assets		Total claims	Real estate debt [5]	Nonreal estate debt [6]	Proprietors' equity
		Real estate	Nonreal estate				Investments in cooperatives	Other [4]				
			Livestock and poultry [1]	Machinery and motor vehicles	Crops [2]	Purchased inputs [3]						
1950	121.6	75.4	17.1	12.3	7.1	.....	2.7	7.0	121.6	5.2	5.7	110.7
1951	136.1	83.8	19.5	14.3	8.2	.....	2.9	7.3	136.1	5.7	6.9	123.7
1952	133.0	85.1	14.8	15.0	7.9	.....	3.2	7.1	133.0	6.2	7.1	119.7
1953	128.7	84.3	11.7	15.6	6.8	.....	3.3	7.0	128.7	6.6	6.3	115.8
1954	132.6	87.8	11.2	15.7	7.5	.....	3.5	6.9	132.6	7.1	6.7	118.8
1955	137.0	93.0	10.6	16.3	6.5	.....	3.7	6.9	137.0	7.8	7.3	121.9
1956	145.7	100.3	11.0	16.9	6.8	.....	4.0	6.7	145.7	8.5	7.4	129.8
1957	154.5	106.4	13.9	17.0	6.4	.....	4.2	6.6	154.5	9.0	8.2	137.3
1958	168.7	114.6	17.7	18.1	6.9	.....	4.5	6.9	168.7	9.7	9.4	149.6
1959	173.0	121.2	15.2	19.3	6.2	.....	4.8	6.2	173.0	10.6	10.7	151.7
1960	174.3	123.3	15.6	19.1	6.4	.....	4.2	5.8	174.3	11.3	11.1	151.9
1961	181.6	129.1	16.4	19.3	6.5	.....	4.5	5.9	181.6	12.3	11.8	157.5
1962	188.9	134.6	17.3	19.9	6.5	.....	4.6	5.9	188.9	13.5	13.2	162.3
1963	196.7	142.4	15.9	20.4	7.4	.....	5.0	5.7	196.7	15.0	14.6	167.1
1964	204.2	150.5	14.5	21.2	7.0	.....	5.2	5.8	204.2	16.9	15.3	172.1
1965	220.8	161.5	17.6	22.4	7.9	.....	5.4	6.0	220.8	18.5	16.9	185.0
1966	234.0	171.2	19.0	24.1	8.1	.....	5.7	6.0	234.0	20.7	18.5	194.8
1967	246.0	180.9	18.8	26.3	8.0	.....	5.8	6.1	246.0	22.6	19.6	203.9
1968	257.2	189.4	20.2	27.7	7.4	.....	6.1	6.3	257.2	24.7	19.2	213.2
1969	267.8	195.3	22.8	28.6	8.3	.....	6.4	6.4	267.8	26.4	20.0	221.4
1970	278.9	202.4	23.7	30.4	8.7	.....	7.2	6.5	278.9	27.5	21.2	230.1
1971	301.7	217.6	27.3	32.4	10.0	.....	7.9	6.7	301.7	29.3	24.0	248.5
1972	339.9	243.0	33.7	34.6	12.9	.....	8.7	6.9	339.9	32.0	26.7	281.2
1973	418.5	298.3	42.4	39.7	21.4	.....	9.7	7.1	418.5	36.1	31.6	350.9
1974 [7]	449.2	335.6	24.6	48.5	22.5	.....	11.2	6.9	449.2	40.8	35.1	373.3
1975	510.8	383.6	29.4	57.4	20.5	.....	13.0	6.9	510.8	45.3	39.7	425.8
1976	590.7	456.5	29.0	63.3	20.6	.....	14.3	6.9	590.7	50.5	45.6	494.7
1977	651.5	509.3	31.9	69.3	20.4	.....	13.5	7.0	651.5	58.4	52.4	540.7
1978	767.4	601.8	50.1	68.5	23.8	.....	16.1	7.1	767.4	66.7	60.7	640.0
1979	898.1	706.1	61.4	75.4	29.9	.....	18.1	7.3	898.1	79.7	71.8	746.6
1980	983.3	782.8	60.6	80.3	32.8	.....	19.3	7.4	983.3	89.7	77.1	816.5
1981	982.3	785.6	53.5	85.5	29.5	.....	20.6	7.6	982.3	98.8	83.6	800.0
1982	944.6	750.0	53.0	86.0	25.9	.....	21.9	7.8	944.6	101.8	87.0	755.8
1983	943.4	753.4	49.5	85.8	23.7	.....	22.8	8.1	943.4	103.2	87.9	752.3
1984	857.1	661.8	49.5	85.0	26.1	2.0	24.3	8.3	857.1	106.7	87.1	663.3
1985	772.7	586.2	46.3	82.9	22.9	1.2	24.3	9.0	772.7	100.1	77.5	595.1
1986	724.8	542.3	47.8	81.9	16.3	2.1	24.4	10.0	724.8	90.4	66.6	567.8
1987	756.3	563.5	58.0	78.7	17.8	3.2	25.3	9.9	756.3	82.4	62.0	611.9
1988	788.4	582.7	62.2	81.0	23.7	3.5	25.1	10.4	788.4	77.8	61.7	648.8
1989	814.4	600.8	66.2	84.1	23.9	2.6	26.3	10.5	814.4	76.0	61.9	676.6
1990	841.5	620.0	70.9	86.3	23.2	2.8	27.5	10.9	841.5	74.7	63.2	703.5
1991	844.9	625.5	68.1	85.9	22.2	2.6	28.7	11.8	844.9	74.9	64.3	705.7
1992	870.3	642.8	71.0	85.4	24.2	3.9	29.4	13.6	870.3	75.4	63.6	731.3
1993	906.4	673.7	72.8	86.5	23.3	3.8	31.0	15.3	906.4	76.0	65.9	764.4
1994	938.3	706.9	67.9	87.5	23.3	5.0	32.1	15.5	938.3	77.7	69.1	791.5
1995	981.9	755.7	57.8	88.5	27.4	3.4	34.1	15.0	981.9	79.3	71.5	831.1
1996	1,033.9	799.5	60.3	88.9	31.7	4.4	34.9	14.1	1,033.9	81.7	74.4	877.8
1997	1,088.8	849.2	66.8	88.1	29.9	5.1	35.7	14.0	1,088.8	85.4	80.1	923.4

[1] Excludes commercial broilers; excludes horses and mules beginning 1959; excludes turkeys beginning 1986.
[2] Non-Commodity Credit Corporation (CCC) crops held on farms plus value above loan rate for crops held under CCC.
[3] Includes fertilizer, chemicals, fuels, parts, feed, seed, and other supplies.
[4] Currency and demand deposits.
[5] Includes CCC storage and drying facilities loans.
[6] Does not include CCC crop loans.
[7] Beginning 1974, data are for farms included in the new farm definition, that is, places with sales of $1,000 or more annually.

Note.—Data exclude operator households.
Beginning 1959, data include Alaska and Hawaii.

Source: Department of Agriculture, Economic Research Service.

TABLE B–99.—*Farm output and productivity indexes, 1948–96*

[1992=100]

Year	Farm output						Productivity indicators[3]	
	Total[1]	Livestock and products	Crops				Farm output per unit of total factor input	Farm output per unit of farm labor
			Total[2]	Feed crops	Feed grains	Oil crops		
1948	45	49	43	47	47	17	43	13
1949	45	52	40	43	41	15	40	14
1950	44	54	39	44	38	18	40	14
1951	46	57	40	43	37	16	41	15
1952	48	58	42	44	48	16	43	16
1953	48	59	42	43	44	16	43	17
1954	48	61	41	45	39	18	45	18
1955	50	62	42	47	37	20	44	18
1956	50	64	42	46	38	23	45	19
1957	50	63	42	51	36	23	45	20
1958	52	64	46	54	53	29	47	23
1959	54	67	46	54	43	25	47	23
1960	54	66	48	57	51	27	48	24
1961	56	69	48	53	47	31	50	26
1962	56	69	49	54	43	32	51	26
1963	58	72	51	56	45	33	52	28
1964	58	74	49	52	50	34	53	29
1965	59	71	52	59	52	40	55	31
1966	59	72	52	58	52	43	54	33
1967	62	75	54	64	59	45	56	36
1968	63	75	55	62	62	51	58	38
1969	63	75	57	64	57	52	59	39
1970	63	78	55	60	54	53	59	40
1971	67	79	61	72	63	59	63	43
1972	68	80	61	71	60	59	63	44
1973	71	81	65	73	66	71	64	45
1974	67	79	60	61	70	57	61	46
1975	71	75	68	72	84	71	66	49
1976	72	79	68	73	83	60	64	50
1977	76	80	74	78	78	82	69	55
1978	77	80	76	84	73	87	67	59
1979	82	82	83	89	85	105	70	64
1980	79	85	75	76	94	81	66	64
1981	87	87	87	91	111	93	74	70
1982	87	86	87	93	108	101	76	72
1983	76	88	68	61	92	76	69	64
1984	86	87	85	90	101	87	78	74
1985	89	89	89	100	95	96	84	82
1986	87	90	84	95	83	89	85	86
1987	88	92	86	84	84	88	87	87
1988	83	93	75	62	76	72	83	80
1989	89	94	86	85	83	88	90	86
1990	94	95	92	88	107	87	93	92
1991	94	98	92	86	82	94	92	89
1992	100	100	100	100	100	100	100	100
1993	94	100	90	76	96	85	94	98
1994	107	108	106	102	97	115	105	111
1995	101	110	96	83	90	99	100	110
1996	106	109	103	98	93	107	106	106

[1] Gross production.
[2] Includes items not included in groups shown.
[3] See Table B–100 for farm inputs.

Source: Department of Agriculture, Economic Research Service.

TABLE B–100.—*Farm input use, selected inputs, 1948–98*

Year	Farm population, April[1]		Farm employment (thousands)[2]			Crops harvested (millions of acres)[5]	Selected indexes of input use (1992=100)							
	Number (thousands)	As percent of total population[2]	Total	Self-employed and unpaid workers[4]	Hired workers		Total	Farm labor	Farm real estate	Durable equipment	Energy	Agricultural chemicals[6]	Feed, seed, and purchased livestock[7]	Other purchased inputs
1948	24,383	16.6	10,363	8,026	2,337	356	104	335	101	62	71	31	58	46
1949	24,194	16.2	9,964	7,712	2,252	360	111	328	102	74	78	33	60	78
1950	23,048	15.2	9,926	7,597	2,329	345	110	315	104	85	80	39	60	78
1951	21,890	14.2	9,546	7,310	2,236	344	112	302	106	95	83	38	62	83
1952	21,748	13.9	9,149	7,005	2,144	349	112	293	107	103	86	40	62	85
1953	19,874	12.5	8,864	6,775	2,089	348	110	277	108	107	89	39	63	81
1954	19,019	11.7	8,651	6,570	2,081	346	107	270	109	112	88	40	58	76
1955	19,078	11.5	8,381	6,345	2,036	340	112	274	110	114	91	42	66	80
1956	18,712	11.1	7,852	5,900	1,952	324	112	259	110	115	91	46	68	80
1957	17,656	10.3	7,600	5,660	1,940	324	111	242	110	113	89	45	71	83
1958	17,128	9.8	7,503	5,521	1,982	324	111	231	110	111	87	45	75	86
1959	16,592	9.3	7,342	5,390	1,952	324	114	230	110	111	88	52	76	100
1960	15,635	8.7	7,057	5,172	1,885	324	113	224	110	112	89	54	76	99
1961	14,803	8.1	6,919	5,029	1,890	302	111	218	107	110	91	59	72	97
1962	14,313	7.7	6,700	4,873	1,827	295	111	216	106	108	93	53	75	99
1963	13,367	7.1	6,518	4,738	1,780	298	111	210	107	106	94	57	77	98
1964	12,954	6.7	6,110	4,506	1,604	298	109	198	106	110	96	63	75	97
1965	12,363	6.4	5,610	4,128	1,482	29[8]	108	193	106	112	97	66	74	97
1966	11,595	5.9	5,214	3,854	1,360	294	109	180	105	115	99	74	80	98
1967	10,875	5.5	4,903	3,650	1,253	306	109	171	107	119	98	79	80	99
1968	10,454	5.2	4,749	3,535	1,213	300	107	165	106	124	98	63	81	97
1969	10,307	5.1	4,596	3,419	1,176	290	108	162	105	126	100	68	86	93
1970	9,712	4.7	4,523	3,348	1,175	293	108	160	105	127	100	71	89	90
1971	9,425	4.5	4,436	3,275	1,161	305	107	157	105	129	98	73	86	89
1972	9,610	4.6	4,373	3,228	1,146	294	108	155	105	129	97	79	88	90
1973	9,472	4.5	4,337	3,169	1,168	321	110	156	108	131	99	85	88	95
1974	9,264	4.3	4,389	3,075	1,314	328	110	144	110	139	94	90	88	100
1975	8,864	4.1	4,331	3,021	1,310	336	108	145	109	144	110	81	83	99
1976	8,253	3.8	4,363	2,992	1,371	337	111	143	110	148	124	90	88	102
1977	[8]6,194	[8]2.8	4,143	2,852	1,291	345	109	138	110	152	130	88	83	103
1978	[8]6,501	[8]2.9	3,937	2,680	1,256	338	115	132	109	156	136	96	96	122
1979	[8]6,241	[8]2.8	3,765	2,495	1,270	348	118	128	110	161	124	105	103	129
1980	[8]6,051	[8]2.7	3,699	2,401	1,298	352	119	123	112	166	121	119	109	117
1981	[8]5,850	[8]2.5	[9]3,582	[9]2,324	[9]1,258	366	116	124	112	166	116	110	103	111
1982	[8]5,628	[8]2.4	[9]3,466	[9]2,248	[9]1,218	362	113	120	110	163	109	90	106	104
1983	[8]5,787	[8]2.5	[9]3,349	[9]2,171	[9]1,178	306	110	118	102	155	106	86	108	106
1984	5,754	2.4	[9]3,233	[9]2,095	[9]1,138	348	110	116	108	147	110	99	97	108
1985	5,355	2.2	3,116	2,018	1,098	342	106	108	107	139	98	97	99	99
1986	5,226	2.2	2,912	1,873	1,039	325	102	101	104	130	91	105	99	88
1987	4,986	2.1	2,897	1,846	1,051	302	101	101	100	120	102	100	97	95
1988	4,951	2.1	2,954	1,967	1,037	297	100	103	100	113	102	91	96	99
1989	4,801	2.0	2,863	1,935	928	318	100	104	102	108	101	95	91	103
1990	4,591	1.9	2,891	2,000	892	322	101	102	101	105	100	95	99	103
1991	4,632	1.9	2,877	1,968	910	318	102	106	100	103	101	100	99	104
1992	.....	.....	2,810	1,944	866	319	100	100	100	100	100	100	100	100
1993	.....	.....	2,800	1,942	857	308	101	96	98	97	100	105	101	110
1994	.....	.....	2,767	1,925	842	321	102	96	99	94	103	106	102	117
1995	.....	.....	2,836	1,967	869	314	101	92	98	92	109	90	109	121
1996	.....	.....	2,842	2,010	832	326	100	100	99	89	104	97	95	117
1997	.....	.....	2,867	1,990	877	333	.....	.....	.....	.....	.....	.....	.....	.....
1998[p]	.....	.....	2,827	1,947	880	329	.....	.....	.....	.....	.....	.....	.....	.....

[1] Farm population as defined by Department of Agriculture and Department of Commerce, i.e., civilian population living on farms in rural areas, regardless of occupation. See also footnote 8. Series discontinued in 1992.

[2] Total population of United States including Armed Forces overseas, as of July 1.

[3] Includes persons doing farmwork on all farms. These data, published by the Department of Agriculture, differ from those on agricultural employment by the Department of Labor (see Table B–35) because of differences in the method of approach, in concepts of employment, and in time of month for which the data are collected.

[4] Prior to 1982 this category was termed "family workers" and did not include nonfamily unpaid workers.

[5] Acreage harvested plus acreages in fruits, tree nuts, and farm gardens.

[6] Fertilizer, lime, and pesticides.

[7] Includes purchases of broiler- and egg-type chicks and turkey poults and livestock imports for purposes other than immediate slaughter.

[8] Based on new definition of a farm. Under old definition of a farm, farm population (in thousands and as percent of total population) for 1977, 1978, 1979, 1980, 1981, 1982, and 1983 is 7,806 and 3.6; 8,005 and 3.6; 7,553 and 3.4; 7,241 and 3.2; 7,014 and 3.1; 6,880 and 3.0; 7,029 and 3.0, respectively.

[9] Basis for farm employment series was discontinued for 1981 through 1984. Employment is estimated for these years.

Note.—Population includes Alaska and Hawaii beginning 1960.

Sources: Department of Agriculture (Economic Research Service) and Department of Commerce (Bureau of the Census).

TABLE B–101.—*Indexes of prices received and prices paid by farmers, 1975–98*

[1990–92=100, except as noted]

Year or month	Prices received by farmers			Prices paid by farmers											Addendum: Average farm real estate value per acre (dollars)[3]
				All commodities, services, interest, taxes, and wage rates[1]	Production items									Wage rates	
	All farm products	Crops	Livestock and products		Total[2]	Feed	Livestock and poultry	Fertilizer	Agricultural chemicals	Fuels	Farm machinery	Farm services	Rent		
1975	73	88	62	47	55	83	39	87	72	40	38	48		44	340
1976	75	87	64	50	59	83	47	74	78	43	43	52		48	397
1977	73	83	64	53	61	82	48	72	71	46	47	57		51	474
1978	83	89	78	58	67	80	65	72	66	48	51	60		55	531
1979	94	98	90	66	76	89	88	77	67	61	56	68		60	628
1980	98	107	89	75	85	98	85	96	71	86	63	81		65	737
1981	100	111	89	82	92	110	80	104	77	98	70	89		70	819
1982	94	98	90	86	94	99	78	105	83	97	76	96		74	823
1983	98	108	88	86	92	107	76	100	87	94	81	82		76	788
1984	101	111	91	89	94	112	73	103	90	93	85	86		77	801
1985	91	98	86	86	91	95	74	98	90	93	85	85		78	713
1986	87	87	88	85	86	88	73	90	89	76	83	83		81	640
1987	89	86	91	87	87	83	85	86	87	76	85	84		85	599
1988	99	104	93	91	90	104	91	94	89	77	89	85		87	632
1989	104	109	100	96	95	110	93	99	93	83	94	91		95	668
1990	104	103	105	99	99	103	102	97	95	100	96	96	96	96	683
1991	100	101	99	100	100	98	102	103	101	104	100	99	100	100	703
1992	98	101	97	101	101	99	96	100	103	96	104	103	104	105	713
1993	101	102	100	104	104	102	104	96	109	93	107	110	100	108	736
1994	100	105	95	106	106	106	94	105	112	91	113	110	108	111	782
1995	102	112	92	109	108	103	82	121	116	89	120	115	116	114	832
1996	112	126	99	114	114	129	75	125	119	102	125	116	119	117	890
1997	107	115	98	117	117	123	94	121	120	108	129	117	121	123	945
1998	101	107	96	115	112	105	88	112	122	88	132	116	124	129	1,000
1997: Jan	107	115	98	116	115	120	85	124	120	115	127	116	121	124	945
Feb	105	113	98	116	116	121	88	125	118	113	127	116	121	124	.....
Mar	108	118	99	117	116	126	89	125	118	106	127	116	121	124	.....
Apr	106	116	99	117	117	127	94	124	119	105	127	116	121	122	.....
May	108	117	100	118	118	129	96	123	120	103	128	116	121	122	.....
June	107	119	97	117	117	126	95	122	120	102	128	117	121	122	.....
July	107	114	99	117	117	120	100	120	119	99	129	118	121	119	.....
Aug	107	116	99	117	117	121	97	119	119	108	129	117	121	119	.....
Sept	107	114	99	117	117	124	96	119	120	110	130	118	121	119	.....
Oct	107	114	97	117	116	119	95	118	121	112	131	116	121	126	.....
Nov	107	114	98	117	117	121	94	117	122	114	132	116	121	126	.....
Dec	105	111	97	117	116	121	95	116	122	107	130	116	121	126	.....
1998: Jan	103	110	94	117	116	117	94	115	123	99	130	116	124	131	1,000
Feb	101	109	94	117	115	114	94	114	122	95	131	116	124	131	.....
Mar	102	111	95	116	114	112	91	114	122	89	131	116	124	131	.....
Apr	104	115	95	116	114	111	94	114	122	91	132	116	124	130	.....
May	103	113	95	116	114	108	91	115	121	94	132	116	124	130	.....
June	102	107	98	115	113	105	88	115	122	88	132	117	124	130	.....
July	102	108	96	115	112	106	83	114	122	85	132	118	124	125	.....
Aug	101	104	98	114	111	101	83	112	122	83	132	117	124	125	.....
Sept	99	101	97	113	110	96	80	111	122	86	132	117	124	125	.....
Oct	99	100	98	114	110	95	85	110	123	86	133	116	124	131	.....
Nov	100	102	97	114	110	96	86	108	122	83	133	116	124	131	.....
Dec	98	100	96	114	110	97	85	107	121	80	133	116	124	131	.....

[1] Includes items used for family living, not shown separately.
[2] Includes other production items not shown separately.
[3] Average for 48 States. Annual data are: March 1 for 1975, February 1 for 1976–81, April 1 for 1982–85, February 1 for 1986–89, and January 1 for 1990–98.

Note—Data on a 1990–92 base prior to 1975 have not been calculated by Department of Agriculture.

Source: Department of Agriculture, National Agricultural Statistics Service.

TABLE B–102.—*U.S. exports and imports of agricultural commodities, 1940–98*

[Billions of dollars]

Year	Exports							Imports					Agricultural trade balance
	Total[1]	Feed grains	Food grains[2]	Oilseeds and products	Cotton	Tobacco	Animals and products	Total[1]	Crops, fruits, and vegetables[3]	Animals and products	Coffee	Cocoa beans and products	
1940	0.5	(4)	(4)	(4)	0.2	(4)	0.1	1.3	(4)	0.2	0.1	(4)	–0.8
1941	.7	(4)	0.1	(4)	.1	0.1	.3	1.7	0.1	.3	.2	(4)	–1.0
1942	1.2	(4)	(4)	(4)	.1	.1	.8	1.3	(4)	.5	.2	(4)	–.1
1943	2.1	(4)	.1	0.1	.2	.2	1.2	1.5	.1	.4	.3	(4)	.6
1944	2.1	(4)	.1	.1	.1	.1	1.3	1.8	.1	.3	.3	(4)	.3
1945	2.3	(4)	.4	(4)	.3	.2	.9	1.7	.1	.4	.3	(4)	.5
1946	3.1	0.1	.7	(4)	.5	.4	.5	2.3	.2	.4	.5	0.1	.8
1947	4.0	.4	1.4	.1	.4	.3	.7	2.8	.1	.4	.6	.2	1.2
1948	3.5	.1	1.5	.2	.5	.2	.5	3.1	.2	.6	.7	.2	.3
1949	3.6	.3	1.1	.3	.9	.3	.4	2.9	.2	.4	.8	.1	.7
1950	2.9	.2	.6	.2	1.0	.3	.3	4.0	.2	.7	1.1	.2	–1.1
1951	4.0	.3	1.1	.3	1.1	.3	.5	5.2	.2	1.1	1.4	.2	–1.1
1952	3.4	.3	1.1	.2	.9	.2	.3	4.5	.2	.7	1.4	.2	–1.1
1953	2.8	.3	.7	.2	.5	.3	.4	4.2	.2	.6	1.5	.2	–1.3
1954	3.1	.2	.5	.3	.8	.3	.5	4.0	.2	.5	1.5	.3	–.9
1955	3.2	.3	.6	.4	.5	.4	.6	4.0	.2	.5	1.4	.2	–.8
1956	4.2	.4	1.0	.5	.7	.3	.7	4.0	.2	.4	1.4	.2	.2
1957	4.5	.3	1.0	.5	1.0	.4	.7	4.0	.2	.5	1.4	.2	.6
1958	3.9	.5	.8	.4	.7	.4	.5	3.9	.2	.7	1.2	.2	(4)
1959	4.0	.6	.9	.6	.4	.3	.6	4.1	.2	.8	1.1	.2	–.1
1960	4.8	.5	1.2	.6	1.0	.4	.6	3.8	.2	.6	1.0	.2	1.0
1961	5.0	.5	1.4	.6	.9	.4	.6	3.7	.2	.7	1.0	.2	1.3
1962	5.0	.8	1.3	.7	.5	.4	.5	3.9	.2	.9	1.0	.2	1.2
1963	5.6	.8	1.5	.8	.6	.4	.7	4.0	.3	.9	1.0	.2	1.6
1964	6.3	.9	1.7	1.0	.7	.4	.8	4.1	.3	.8	1.2	.2	2.3
1965	6.2	1.1	1.4	1.2	.5	.4	.8	4.1	.3	.9	1.1	.1	2.1
1966	6.9	1.3	1.8	1.2	.4	.5	.7	4.5	.4	1.2	1.1	.1	2.4
1967	6.4	1.1	1.5	1.3	.5	.5	.7	4.5	.4	1.1	1.0	.2	1.9
1968	6.3	.9	1.4	1.3	.5	.5	.7	5.0	.5	1.3	1.2	.2	1.3
1969	6.0	.9	1.2	1.3	.3	.6	.8	5.0	.5	1.4	.9	.2	1.1
1970	7.3	1.1	1.4	1.9	.4	.5	.9	5.8	.5	1.5	1.2	.3	1.5
1971	7.7	1.0	1.3	2.2	.6	.5	1.0	5.8	.6	1.5	1.2	.2	1.9
1972	9.4	1.5	1.8	2.4	.5	.7	1.1	6.5	.7	1.8	1.3	.2	2.9
1973	17.7	3.5	4.7	4.3	.9	.7	1.6	8.4	.8	2.6	1.7	.3	9.3
1974	21.9	4.6	5.4	5.7	1.3	.8	1.8	10.2	.9	2.2	1.6	.5	11.7
1975	21.9	5.2	6.2	4.5	1.0	.9	1.7	9.3	.8	1.8	1.7	.5	12.6
1976	23.0	6.0	4.7	5.1	1.0	.9	2.4	11.0	.9	2.3	2.9	.6	12.0
1977	23.6	4.9	3.6	6.6	1.5	1.1	2.7	13.4	1.2	2.3	4.2	1.0	10.2
1978	29.4	5.9	5.5	8.2	1.7	1.4	3.0	14.8	1.5	3.1	4.0	1.4	14.6
1979	34.7	7.7	6.3	8.9	2.2	1.2	3.8	16.7	1.7	3.9	4.2	1.2	18.0
1980	41.2	9.8	7.9	9.4	2.9	1.3	3.8	17.4	1.7	3.8	4.2	.9	23.8
1981	43.3	9.4	9.6	9.6	2.3	1.5	4.2	16.9	2.0	3.5	2.9	.9	26.4
1982	36.6	6.4	7.9	9.1	2.0	1.5	3.9	15.3	2.3	3.7	2.9	.7	21.3
1983	36.1	7.3	7.4	8.7	1.8	1.5	3.8	16.5	2.3	3.8	2.8	.8	19.6
1984	37.8	8.1	7.5	8.4	2.4	1.5	4.2	19.3	3.1	4.1	3.3	1.1	18.5
1985	29.0	6.0	4.5	5.8	1.6	1.3	4.1	20.0	3.5	4.2	3.3	1.4	9.1
1986	26.2	3.1	3.8	6.5	.8	1.2	4.5	21.5	3.6	4.5	4.6	1.1	4.7
1987	28.7	3.8	3.8	6.4	1.6	1.1	5.2	20.4	3.6	4.9	2.9	1.2	8.3
1988	37.1	5.9	5.9	7.7	2.0	1.3	6.4	21.0	3.6	5.2	2.5	1.0	16.1
1989	40.1	7.7	7.1	6.3	2.2	1.3	6.4	21.9	4.2	5.0	2.4	1.0	18.2
1990	39.5	7.0	4.8	5.7	2.8	1.4	6.7	22.9	4.9	5.6	1.9	1.1	16.6
1991	39.4	5.7	4.2	6.4	2.5	1.4	7.1	22.9	4.8	5.5	1.9	1.1	16.5
1992	43.1	5.7	5.4	7.2	2.0	1.7	8.0	24.8	4.9	5.7	1.7	1.1	18.3
1993	42.9	5.0	5.6	7.3	1.5	1.3	8.1	25.2	5.0	5.9	1.5	1.0	17.7
1994	46.2	4.7	5.3	7.2	2.7	1.3	9.3	27.1	5.4	5.6	2.5	1.0	19.1
1995	56.3	8.2	6.7	8.9	3.7	1.4	11.0	30.3	5.9	6.0	3.3	1.1	26.0
1996	60.4	9.4	7.4	10.8	2.7	1.4	11.3	33.7	6.9	6.1	2.8	1.4	26.7
1997	57.2	6.0	5.2	12.1	2.7	1.6	11.5	36.3	7.1	6.5	3.9	1.5	20.9
Jan–Nov:													
1997 r	52.0	5.5	4.7	10.6	2.4	1.4	10.5	33.0	6.4	5.9	3.5	1.3	19.0
1998[5]	47.0	4.5	4.6	8.5	2.2	1.3	9.8	33.9	7.1	6.4	3.2	1.5	13.1

[1] Total includes items not shown separately.
[2] Rice, wheat, and wheat flour.
[3] Includes nuts, fruits, and vegetable preparations.
[4] Less than $50 million.
[5] For 1998, totals include transshipments through Canada that are not reflected in commodity groupings. Prior data reflect the transshipments.

Note.—Data derived from official estimates released by the Bureau of the Census, Department of Commerce. Agricultural commodities are defined as (1) nonmarine food products and (2) other products of agriculture which have not passed through complex processes of manufacture. Export value, at U.S. port of exportation, is based on the selling price and includes inland freight, insurance, and other charges to the port. Import value, defined generally as the market value in the foreign country, excludes import duties, ocean freight, and marine insurance.

Source: Department of Agriculture, Economic Research Service.

TABLE B–103.—*U.S. international transactions, 1946–98*

[Millions of dollars; quarterly data seasonally adjusted, except as noted. Credits (+), debits (–)]

Year or quarter	Goods[1]			Services			Balance on goods and services	Investment income			Unilateral transfers, net[3]	Balance on current account
	Exports	Imports	Net	Net military transactions[2,3]	Net travel and transportation receipts	Other services, net		Receipts on U.S. assets abroad	Payments on foreign assets in U.S.	Net		
1946	11,764	–5,067	6,697	–424	733	310	7,316	772	–212	560	–2,991	4,885
1947	16,097	–5,973	10,124	–358	946	145	10,857	1,102	–245	857	–2,722	8,992
1948	13,265	–7,557	5,708	–351	374	175	5,906	1,921	–437	1,484	–4,973	2,417
1949	12,213	–6,874	5,339	–410	230	208	5,367	1,831	–476	1,355	–5,849	873
1950	10,203	–9,081	1,122	–56	–120	242	1,188	2,068	–559	1,509	–4,537	–1,840
1951	14,243	–11,176	3,067	169	298	254	3,788	2,633	–583	2,050	–4,954	884
1952	13,449	–10,838	2,611	528	83	309	3,531	2,751	–555	2,196	–5,113	614
1953	12,412	–10,975	1,437	1,753	–238	307	3,259	2,736	–624	2,112	–6,657	–1,286
1954	12,929	–10,353	2,576	902	–269	305	3,514	2,929	–582	2,347	–5,642	219
1955	14,424	–11,527	2,897	–113	–297	299	2,786	3,406	–676	2,730	–5,086	430
1956	17,556	–12,803	4,753	–221	–361	447	4,618	3,837	–735	3,102	–4,990	2,730
1957	19,562	–13,291	6,271	–423	–189	482	6,141	4,180	–796	3,384	–4,763	4,762
1958	16,414	–12,952	3,462	–849	–633	486	2,466	3,790	–825	2,965	–4,647	784
1959	16,458	–15,310	1,148	–831	–821	573	69	4,132	–1,061	3,071	–4,422	–1,282
1960	19,650	–14,758	4,892	–1,057	–964	639	3,508	4,616	–1,238	3,379	–4,062	2,824
1961	20,108	–14,537	5,571	–1,131	–978	732	4,195	4,999	–1,245	3,755	–4,127	3,822
1962	20,781	–16,260	4,521	–912	–1,152	912	3,370	5,618	–1,324	4,294	–4,277	3,387
1963	22,272	–17,048	5,224	–742	–1,309	1,036	4,210	6,157	–1,560	4,596	–4,392	4,414
1964	25,501	–18,700	6,801	–794	–1,146	1,161	6,022	6,824	–1,783	5,041	–4,240	6,823
1965	26,461	–21,510	4,951	–487	–1,280	1,480	4,664	7,437	–2,088	5,350	–4,583	5,431
1966	29,310	–25,493	3,817	–1,043	–1,331	1,497	2,940	7,528	–2,481	5,047	–4,955	3,031
1967	30,666	–26,866	3,800	–1,187	–1,750	1,742	2,604	8,021	–2,747	5,274	–5,294	2,583
1968	33,626	–32,991	635	–596	–1,548	1,759	250	9,367	–3,378	5,990	–5,629	611
1969	36,414	–35,807	607	–718	–1,763	1,964	91	10,913	–4,869	6,044	–5,735	399
1970	42,469	–39,866	2,603	–641	–2,038	2,330	2,254	11,748	–5,515	6,233	–6,156	2,331
1971	43,319	–45,579	–2,260	653	–2,345	2,649	–1,303	12,707	–5,435	7,272	–7,402	–1,433
1972	49,381	–55,787	–6,416	1,072	–3,063	2,965	–5,443	14,765	–6,572	8,192	–8,544	–5,795
1973	71,410	–70,499	911	740	–3,158	3,406	1,900	21,808	–9,655	12,153	–6,913	7,140
1974	98,306	–103,811	–5,505	165	–3,184	4,231	–4,292	27,587	–12,084	15,503	[4]–9,249	1,962
1975	107,088	–98,185	8,903	1,461	–2,812	4,854	12,404	25,351	–12,564	12,787	–7,075	18,116
1976	114,745	–124,228	–9,483	931	–2,558	5,027	–6,082	29,375	–13,311	16,063	–5,686	4,295
1977	120,816	–151,907	–31,091	1,731	–3,565	5,680	–27,246	32,354	–14,217	18,137	–5,226	–14,335
1978	142,075	–176,002	–33,927	857	–3,573	6,879	–29,763	42,088	–21,680	20,408	–5,788	–15,143
1979	184,439	–212,007	–27,568	–1,313	–2,935	7,251	–24,565	63,834	–32,961	30,873	–6,593	–285
1980	224,250	–249,750	–25,500	–1,822	–997	8,912	–19,407	72,606	–42,532	30,073	–8,349	2,317
1981	237,044	–265,067	–28,023	–844	144	12,552	–16,172	86,529	–53,626	32,903	–11,702	5,030
1982	211,157	–247,642	–36,485	112	–992	13,209	–24,156	86,200	–56,412	29,788	–17,075	–11,443
1983	201,799	–268,901	–67,102	–563	–4,227	14,124	–57,767	85,200	–53,700	31,500	–17,718	–43,985
1984	219,926	–332,418	–112,492	–2,547	–8,438	14,404	–109,073	104,756	–74,036	30,720	–20,598	–98,951
1985	215,915	–338,088	–122,173	–4,390	–9,798	14,483	–121,880	93,679	–73,087	20,592	–22,700	–123,987
1986	223,344	–368,425	–145,081	–5,181	–8,779	18,474	–140,566	91,186	–79,095	12,091	–24,679	–153,154
1987	250,208	–409,765	–159,557	–3,844	–8,010	18,098	–153,313	100,511	–91,302	9,209	–23,909	–168,013
1988	320,230	–447,189	–126,959	–6,320	–3,013	20,435	–115,856	129,366	–115,722	13,644	–25,988	–128,201
1989	362,120	–477,365	–115,245	–6,749	3,551	26,245	–92,197	153,659	–138,639	15,020	–26,963	–104,139
1990	389,307	–498,337	–109,030	–7,599	7,501	27,999	–81,129	163,324	–139,149	24,174	–34,669	–91,624
1991	416,913	–490,581	–74,068	–5,274	16,561	31,851	–30,931	141,408	–119,891	21,517	5,032	–4,383
1992	440,352	–536,458	–96,106	–1,448	19,969	38,899	–38,685	125,003	–102,462	22,541	–35,230	–51,374
1993	456,832	–589,441	–132,609	1,269	19,714	39,686	–71,939	126,702	–102,754	23,948	–38,142	–86,133
1994	502,398	–668,590	–166,192	2,495	16,305	46,479	–100,913	157,742	–141,263	16,479	–39,391	–123,825
1995	575,845	–749,574	–173,729	4,769	21,772	47,297	–99,891	203,844	–184,569	19,275	–34,638	–115,254
1996	611,983	–803,320	–191,337	4,684	24,969	53,110	–108,574	213,196	–198,960	14,236	–40,577	–134,915
1997	679,325	–877,279	–197,954	6,781	22,670	58,297	–110,206	241,787	–247,105	–5,318	–39,691	–155,215
1996:												
I	150,855	–193,467	–42,612	748	5,769	12,994	–23,101	51,997	–46,638	5,359	–10,473	–28,215
II	152,130	–200,965	–48,835	993	6,548	13,090	–28,204	51,801	–47,826	3,975	–8,777	–33,006
III	151,253	–202,806	–51,553	1,105	8,345	13,025	–33,078	53,058	–51,327	1,731	–9,043	–40,390
IV	157,745	–206,082	–48,337	1,838	8,307	14,001	–24,191	56,340	–53,168	3,172	–12,284	–33,303
1997:												
I	163,499	–213,222	–49,723	1,542	5,944	14,107	–28,130	57,581	–57,567	14	–8,874	–36,990
II	169,240	–218,336	–49,096	2,191	5,711	14,679	–26,515	61,271	–60,811	460	–9,035	–35,090
III	172,302	–221,598	–49,296	1,945	5,414	14,832	–27,105	62,551	–64,095	–1,544	–9,445	–38,094
IV	174,284	–224,123	–49,839	1,103	5,600	14,677	–28,459	60,384	–64,631	–4,247	–12,337	–45,043
1998:												
I	171,469	–227,167	–55,698	1,527	4,416	14,748	–35,007	62,522	–64,770	–2,248	–9,480	–46,735
II	164,821	–229,264	–64,443	1,043	4,004	15,525	–43,871	61,900	–65,277	–3,377	–9,442	–56,690
III[r]	163,560	–227,920	–64,360	1,101	2,605	14,899	–45,755	60,434	–65,894	–5,460	–10,084	–61,299

[1] Adjusted from Census data for differences in valuation, coverage, and timing; excludes military.
[2] Quarterly data are not seasonally adjusted.
[3] Includes transfers of goods and services under U.S. military grant programs.

See next page for continuation of table.

TABLE B–103.—*U.S. international transactions, 1946–98*—Continued

[Millions of dollars; quarterly data seasonally adjusted, except as noted]

Year or quarter	U.S. assets abroad, net [increase/capital outflow (–)]				Foreign assets in the U.S., net [increase/capital inflow (+)]			Allocations of special drawing rights (SDRs)	Statistical discrepancy	
	Total	U.S. official reserve assets[2,5]	Other U.S. Government assets[2]	U.S. private assets	Total	Foreign official assets[2]	Other foreign assets		Total (sum of the items with sign reversed)	Of which: Seasonal adjustment discrepancy
1946		–623								
1947		–3,315								
1948		–1,736								
1949		–266								
1950		1,758								
1951		–33								
1952		–415								
1953		1,256								
1954		480								
1955		182								
1956		–869								
1957		–1,165								
1958		2,292								
1959		1,035								
1960	–4,099	2,145	–1,100	–5,144	2,294	1,473	821		–1,019	
1961	–5,538	607	–910	–5,235	2,705	765	1,939		–989	
1962	–4,174	1,535	–1,085	–4,623	1,911	1,270	641		–1,124	
1963	–7,270	378	–1,662	–5,986	3,217	1,986	1,231		–360	
1964	–9,560	171	–1,680	–8,050	3,643	1,660	1,983		–907	
1965	–5,716	1,225	–1,605	–5,336	742	134	607		–457	
1966	–7,321	570	–1,543	–6,347	3,661	–672	4,333		629	
1967	–9,757	53	–2,423	–7,386	7,379	3,451	3,928		–205	
1968	–10,977	–870	–2,274	–7,833	9,928	–774	10,703		438	
1969	–11,585	–1,179	–2,200	–8,206	12,702	–1,301	14,002		–1,516	
1970	–9,337	2,481	–1,589	–10,229	6,359	6,908	–550	867	–219	
1971	–12,475	2,349	–1,884	–12,940	22,970	26,879	–3,909	717	–9,779	
1972	–14,497	–4	–1,568	–12,925	21,461	10,475	10,986	710	–1,879	
1973	–22,874	158	–2,644	–20,388	18,388	6,026	12,362		–2,654	
1974	–34,745	–1,467	[4] 366	–33,643	35,341	10,546	24,796		–2,558	
1975	–39,703	–849	–3,474	–35,380	17,170	7,027	10,143		4,417	
1976	–51,269	–2,558	–4,214	–44,498	38,018	17,693	20,326		8,955	
1977	–34,785	–375	–3,693	–30,717	53,219	36,816	16,403		–4,099	
1978	–61,130	732	–4,660	–57,202	67,036	33,678	33,358		9,236	
1979	–66,054	–1,133	–3,746	–61,176	40,852	–13,665	54,516	1,139	24,349	
1980	–86,967	–8,155	–5,162	–73,651	62,612	15,497	47,115	1,152	20,886	
1981	–114,147	–5,175	–5,097	–103,875	86,232	4,960	81,272	1,093	21,792	
1982	–122,335	–4,963	–6,131	–111,239	96,418	3,593	92,826		37,359	
1983	–61,573	–1,196	–5,006	–55,372	88,780	5,845	82,934		16,779	
1984	–36,313	–3,131	–5,489	–27,694	118,032	3,140	114,892		17,231	
1985	–39,889	–3,858	–2,821	–33,211	146,383	–1,119	147,501		17,494	
1986	–106,753	312	–2,022	–105,044	230,211	35,648	194,563		29,696	
1987	–72,617	9,149	1,006	–82,771	248,383	45,387	202,996		–7,753	
1988	–100,221	–3,912	2,967	–99,275	246,065	39,758	206,307		–17,644	
1989	–168,744	–25,293	1,259	–144,710	224,390	8,503	215,887		48,494	
1990	–74,011	–2,158	2,307	–74,160	140,992	33,910	107,082		24,643	
1991	–57,881	5,763	2,911	–66,555	109,641	17,389	92,253		–47,378	
1992	–68,774	3,901	–1,657	–71,018	168,776	40,477	128,299		–48,628	
1993	–194,537	–1,379	–342	–192,817	279,671	71,753	207,918		999	
1994	–171,102	5,346	–389	–176,059	304,460	39,583	264,877		–9,533	
1995	–327,453	–9,742	–589	–317,122	465,449	109,768	355,681		–22,742	
1996	–368,801	6,668	–708	–374,761	563,357	127,344	436,013		–59,641	
1997	–478,502	–1,010	174	–477,666	733,441	15,817	717,624		–99,724	
1996:										
I	–69,695	17	–210	–69,502	90,534	51,833	38,701		7,376	4,928
II	–60,623	–523	–377	–59,723	109,122	13,601	95,521		–15,493	116
III	–83,101	7,489	163	–90,753	149,361	23,432	125,929		–25,870	–8,779
IV	–155,381	–315	–284	–154,782	214,339	38,478	175,861		–25,655	3,734
1997:										
I	–145,139	4,480	–22	–149,597	181,735	26,949	154,786		394	5,812
II	–86,606	–236	–269	–86,101	149,773	–5,411	155,184		–28,077	685
III	–123,317	–730	436	–123,023	181,438	21,258	160,180		–20,027	–10,018
IV	–123,441	–4,524	29	–118,946	220,491	–26,979	247,470		–52,007	3,528
1998:										
I	–45,648	–444	–388	–44,816	95,529	11,324	84,205		–3,146	6,217
II	–109,787	–1,945	–433	–107,409	164,859	–10,274	175,133		1,618	1,474
III[r]	–48,052	–2,026	194	–46,220	112,862	–46,370	159,232		–3,511	–10,760

[4] Includes extraordinary U.S. Government transactions with India.

[5] Consists of gold, special drawing rights, foreign currencies, and the U.S. reserve position in the International Monetary Fund (IMF).

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–104.—*U.S. international trade in goods by principal end-use category, 1965–98*

[Billions of dollars; quarterly data seasonally adjusted]

Year or quarter	Exports							Imports						
			Nonagricultural products							Nonpetroleum products				
	Total	Agricultural products	Total	Industrial supplies and materials	Capital goods except automotive	Automotive	Other	Total	Petroleum and products	Total	Industrial supplies and materials	Capital goods except automotive	Automotive	Other
1965	26.5	6.3	20.2	7.6	8.1	1.9	2.6	21.5	2.0	19.5	9.1	1.5	0.9	8.0
1966	29.3	6.9	22.4	8.2	8.9	2.4	2.9	25.5	2.1	23.4	10.2	2.2	1.8	9.2
1967	30.7	6.5	24.2	8.5	9.9	2.8	3.0	26.9	2.1	24.8	10.0	2.5	2.4	9.9
1968	33.6	6.3	27.3	9.6	11.1	3.5	3.2	33.0	2.4	30.6	12.0	2.8	4.0	11.8
1969	36.4	6.1	30.3	10.3	12.4	3.9	3.7	35.8	2.6	33.2	11.8	3.4	4.9	13.0
1970	42.5	7.4	35.1	12.3	14.7	3.9	4.3	39.9	2.9	36.9	12.4	4.0	5.5	15.0
1971	43.3	7.8	35.5	10.9	15.4	4.7	4.5	45.6	3.7	41.9	13.8	4.3	7.4	16.4
1972	49.4	9.5	39.9	11.9	16.9	5.5	5.6	55.8	4.7	51.1	16.3	5.9	8.7	20.2
1973	71.4	18.0	53.4	17.0	22.0	6.9	7.6	70.5	8.4	62.1	19.6	8.3	10.3	23.9
1974	98.3	22.4	75.9	26.3	30.9	8.6	10.0	103.8	26.6	77.2	27.8	9.8	12.0	27.5
1975	107.1	22.2	84.8	26.8	34.5	10.6	10.8	98.2	27.0	71.2	24.0	10.2	11.7	25.3
1976	114.7	23.4	91.4	28.4	39.1	12.1	11.7	124.2	34.6	89.7	29.8	12.3	16.2	31.4
1977	120.8	24.3	96.5	29.8	39.8	13.4	13.5	151.9	45.0	106.9	35.7	14.0	18.6	38.6
1978[1]	142.1	29.9	112.2	34.2	47.5	15.2	15.3	176.0	42.6	133.4	40.7	19.3	25.0	48.4
1979	184.4	35.5	149.0	52.2	60.2	17.9	18.7	212.0	60.4	151.6	47.5	24.6	26.6	52.8
1980	224.3	42.0	182.2	65.1	76.3	17.4	23.4	249.8	79.5	170.2	53.0	31.6	28.3	57.4
1981	237.0	44.1	193.0	63.6	84.2	19.7	25.5	265.1	78.4	186.7	56.1	37.1	31.0	62.4
1982	211.2	37.3	173.9	57.7	76.5	17.2	22.4	247.6	62.0	185.7	48.6	38.4	34.3	64.3
1983	201.8	37.1	164.7	52.7	71.7	18.5	21.8	268.9	55.1	213.8	53.7	43.7	43.0	73.3
1984	219.9	38.4	181.5	56.8	77.0	22.4	25.3	332.4	58.1	274.4	66.1	60.4	56.5	91.4
1985	215.9	29.6	186.3	54.8	79.3	24.9	27.2	338.1	51.4	286.7	62.6	61.3	64.9	97.9
1986	223.3	27.2	196.2	59.4	82.8	25.1	28.9	368.4	34.3	334.1	69.9	72.0	78.1	114.2
1987	250.2	29.8	220.4	63.7	92.7	27.6	36.4	409.8	42.9	366.8	70.8	85.1	85.2	125.7
1988	320.2	38.8	281.4	82.6	119.1	33.4	46.3	447.2	39.6	407.6	83.1	102.2	87.9	134.4
1989	362.1	42.2	319.9	91.8	138.9	34.9	54.3	477.4	50.9	426.5	84.5	112.2	87.4	142.5
1990	389.3	40.2	349.1	96.9	152.5	36.5	63.2	498.3	62.3	436.1	82.9	116.1	88.5	148.6
1991	416.9	40.1	376.8	101.7	166.5	40.0	68.6	491.0	51.7	439.2	81.2	120.8	85.7	151.5
1992	440.4	44.0	396.3	101.7	176.1	47.0	71.5	536.5	51.6	484.9	89.0	134.3	91.8	169.8
1993	456.8	43.7	413.1	105.0	182.1	52.5	73.5	589.4	51.5	538.0	101.0	152.3	102.4	182.3
1994	502.4	47.1	455.3	112.6	205.2	57.8	79.8	668.6	51.3	617.3	113.7	184.4	118.3	201.0
1995	575.8	57.2	518.6	135.5	233.8	61.8	87.5	749.6	56.2	693.4	128.9	221.4	123.8	219.3
1996	612.0	61.5	550.5	137.9	253.1	65.0	94.4	803.3	72.7	730.6	136.7	229.1	128.9	235.9
1997	679.3	58.4	620.9	147.7	295.3	74.0	103.9	877.3	71.8	805.5	145.5	254.2	140.8	265.0
1996: I	150.9	16.1	134.8	33.8	62.5	15.7	22.7	193.5	14.7	178.8	32.9	58.2	30.9	56.8
II	152.1	15.4	136.7	35.3	61.9	15.9	23.6	201.0	18.6	182.4	35.3	56.6	32.4	58.1
III	151.3	14.8	136.4	33.9	62.1	16.8	23.6	202.8	18.8	184.0	34.4	56.5	33.3	59.8
IV	157.7	15.2	142.6	34.8	66.6	16.6	24.5	206.1	20.7	185.4	34.1	57.8	32.3	61.2
1997: I	163.5	14.7	148.8	36.0	69.6	17.8	25.4	213.2	19.4	193.9	35.9	59.8	35.3	62.8
II	169.2	14.3	154.9	37.9	72.6	18.4	26.1	218.3	17.7	200.7	37.1	62.9	34.7	65.9
III	172.3	14.3	158.0	36.8	76.4	18.7	26.1	221.6	17.6	204.0	36.0	65.2	35.4	67.3
IV	174.3	15.1	159.2	37.0	76.6	19.2	26.4	224.1	17.2	207.0	36.5	66.2	35.3	69.0
1998: I	171.5	14.1	157.4	36.0	75.5	19.4	26.4	227.2	13.7	213.4	37.8	67.2	37.0	71.4
II	164.8	13.0	151.8	34.6	72.1	18.1	27.1	229.3	13.5	215.8	38.2	67.6	36.5	73.5
III *p*	163.6	12.3	151.3	33.4	74.8	16.4	26.7	227.9	12.2	215.7	38.7	66.7	35.8	74.6

[1] End-use categories beginning 1978 are not strictly comparable with data for earlier periods. See *Survey of Current Business*, June 1988.

Note.—Data are on an international transactions basis and exclude military.

In June 1990, end-use categories for goods exports were redefined to include reexports; beginning with data for 1978, reexports (exports of foreign goods) are assigned to detailed end-use categories in the same manner as exports of domestic goods.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–105.—*U.S. international trade in goods by area, 1989–98*

[Billions of dollars]

Item	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 first 3 quarters at annual rate[1]
EXPORTS	362.1	389.3	416.9	440.4	456.8	502.4	575.8	612.0	679.3	666.5
Industrial countries	234.2	253.8	261.3	265.1	270.6	295.2	338.1	355.4	386.5	389.5
Canada	81.1	83.5	85.9	91.4	101.2	114.8	127.6	134.5	152.0	155.8
Japan	43.9	47.8	47.2	46.9	46.7	51.8	63.1	66.0	64.6	57.9
Western Europe[2]	98.4	111.4	116.8	114.5	111.3	115.3	132.5	138.3	153.0	158.8
Australia, New Zealand, and South Africa	10.9	11.2	11.4	12.4	11.5	13.2	15.0	16.6	16.8	17.0
Australia	8.1	8.3	8.3	8.7	8.1	9.6	10.5	11.7	11.9	12.0
Other countries, except Eastern Europe	122.2	130.6	150.4	169.5	179.8	201.7	232.0	249.3	285.1	268.9
OPEC[3]	12.7	12.7	18.4	19.7	18.7	17.1	18.3	20.3	24.2	22.5
Other[4]	109.5	117.9	132.0	149.8	161.1	184.6	213.7	229.0	261.0	246.4
Eastern Europe[2]	5.5	4.3	4.8	5.6	6.2	5.3	5.7	7.3	7.8	8.0
International organizations and unallocated	.2	.6	.4	.1	.2	.1	.....	.....	.....	.....
IMPORTS	477.4	498.3	491.0	536.5	589.4	668.6	749.6	803.3	877.3	912.5
Industrial countries	292.5	299.9	294.3	316.3	347.8	389.8	425.4	443.2	477.4	497.6
Canada	89.9	93.1	93.0	100.9	113.3	131.1	147.1	158.7	171.0	176.1
Japan	93.5	90.4	92.3	97.4	107.2	119.1	123.5	115.2	121.7	121.3
Western Europe[2]	102.4	109.2	102.0	111.4	120.9	132.9	147.7	161.7	175.8	190.0
Australia, New Zealand, and South Africa	6.6	7.3	7.0	6.6	6.4	6.7	7.1	7.7	9.0	10.2
Australia	3.9	4.4	4.1	3.7	3.3	3.2	3.4	3.9	4.9	5.4
Other countries, except Eastern Europe	182.8	196.1	194.9	218.2	238.1	272.9	317.2	353.2	391.4	404.0
OPEC[3]	29.2	37.0	33.4	32.4	32.6	31.7	34.3	42.7	44.0	35.0
Other[4]	153.6	159.1	161.5	185.8	205.4	241.3	282.9	310.5	347.4	369.0
Eastern Europe[2]	2.1	2.3	1.8	2.0	3.5	5.8	7.0	7.0	8.5	10.9
International organizations and unallocated	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
BALANCE (excess of exports +)	–115.2	–109.0	–74.1	–96.1	–132.6	–166.2	–173.7	–191.3	–198.0	–246.0
Industrial countries	–58.2	–46.1	–33.0	–51.2	–77.2	–94.6	–87.3	–87.8	–91.0	–108.1
Canada	–8.8	–9.6	–7.1	–9.5	–12.2	–16.3	–19.6	–24.2	–19.0	–20.4
Japan	–49.7	–42.6	–45.0	–50.5	–60.5	–67.3	–60.3	–49.2	–57.1	–63.4
Western Europe[2]	–4.0	2.2	14.8	3.1	–9.7	–17.6	–15.2	–23.3	–22.8	–31.1
Australia, New Zealand, and South Africa	4.2	3.9	4.4	5.8	5.2	6.6	7.9	8.9	7.9	6.9
Australia	4.2	3.9	4.2	5.0	4.8	6.4	7.1	7.8	7.0	6.6
Other countries, except Eastern Europe	–60.6	–65.5	–44.5	–48.7	–58.3	–71.2	–85.2	–103.9	–106.3	–135.0
OPEC[3]	–16.6	–24.3	–15.0	–12.7	–14.0	–14.6	–15.9	–22.4	–19.9	–12.5
Other[4]	–44.1	–41.2	–29.5	–36.0	–44.3	–56.6	–69.2	–81.5	–86.4	–122.6
Eastern Europe[2]	3.5	2.1	3.0	3.7	2.7	–.5	–1.3	.3	–.7	–2.9
International organizations and unallocated	.2	.6	.4	.1	.2	.1	.....	.....	.....	.....

[1] Preliminary; seasonally adjusted.

[2] The former German Democratic Republic (East Germany) included in Western Europe beginning fourth quarter 1990 and in Eastern Europe prior to that time.

[3] Organization of Petroleum Exporting Countries, consisting of Algeria, Ecuador (through 1992), Gabon (through 1994), Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela.

[4] Latin America, other Western Hemisphere, and other countries in Asia and Africa, less members of OPEC.

Note.—Data are on an international transactions basis and exclude military.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–106.—*U.S. international trade in goods on balance of payments (BOP) and Census basis, and trade in services on BOP basis, 1974–98*

[Billions of dollars; monthly data seasonally adjusted]

Year or month	Goods, Exports (f.a.s. value)[1,2]							Goods, Imports (customs value, except as noted)[5]							Services (BOP basis)	
		Census basis (by end-use category)							Census basis (by end-use category)							
	Total, BOP basis[3]	Total, Census basis[3,4]	Foods, feeds, and beverages	Industrial supplies and materials	Capital goods except automotive	Automotive vehicles, parts, and engines	Consumer goods (nonfood) except automotive	Total, BOP basis	Total, Census basis[4]	Foods, feeds, and beverages	Industrial supplies and materials	Capital goods except automotive	Automotive vehicles, parts, and engines	Consumer goods (nonfood) except automotive	Exports	Imports
	F.a.s. value[2]							F.a.s. value[2]								
1974	98.3	99.4						103.8	103.3						22.6	21.4
1975	107.1	108.9						98.2	99.3						25.5	22.0
1976	114.7	116.8						124.2	124.6						28.0	24.6
1977	120.8	123.2						151.9	151.5						31.5	27.6
1978	142.1	145.8						176.0	176.1						36.4	32.2
1979	184.4	186.4						212.0	210.3						39.7	36.7
1980	224.3	225.6						249.8	245.3						47.6	41.5
								Customs value								
1981	237.0	238.7						265.1	261.0						57.4	45.5
1982	211.2	216.4	31.3	61.7	72.7	15.7	14.3	247.6	244.0	17.1	112.0	35.4	33.3	39.7	64.1	51.7
1983	201.8	205.6	30.9	56.7	67.2	16.8	13.4	268.9	258.0	18.2	107.0	40.9	40.8	44.9	64.3	55.0
1984	219.9	224.0	31.5	61.7	72.0	20.6	13.3	332.4	[6]330.7	21.0	123.7	59.8	53.5	60.0	71.2	67.7
1985	215.9	[7]218.8	24.0	58.5	73.9	22.9	12.6	338.1	[6]336.5	21.9	113.9	65.1	66.8	68.3	73.2	72.9
1986	223.3	[7]227.2	22.3	57.3	75.8	21.7	14.2	368.4	365.4	24.4	101.3	71.8	78.2	79.4	86.4	81.8
1987	250.2	254.1	24.3	66.7	86.2	24.6	17.7	409.8	406.2	24.8	111.0	84.5	85.2	88.7	98.6	92.3
1988	320.2	322.4	32.3	85.1	109.2	29.3	23.1	447.2	441.0	24.8	118.3	101.4	87.7	95.9	111.1	100.0
1989	362.1	363.8	37.2	99.3	138.8	34.8	36.4	477.4	473.2	25.1	132.3	113.3	86.1	102.9	127.2	104.2
1990	389.3	393.6	35.1	104.4	152.7	37.4	43.3	498.3	495.3	26.6	143.2	116.4	87.3	105.7	147.9	120.0
1991	416.9	421.7	35.7	109.7	166.7	40.0	45.9	491.0	488.5	26.5	131.6	120.7	85.7	108.0	164.3	121.2
1992	440.4	448.2	40.3	109.1	175.9	47.0	51.4	536.5	532.7	27.6	138.6	134.3	91.8	122.7	177.0	119.6
1993	456.8	465.1	40.6	111.8	181.7	52.4	54.7	589.4	580.7	27.9	145.6	152.4	102.4	134.0	186.4	125.7
1994	502.4	512.6	42.0	121.4	205.0	57.8	60.0	668.6	663.3	31.0	162.1	184.4	118.3	146.3	201.4	136.2
1995	575.8	584.7	50.5	146.2	233.0	61.8	64.4	749.6	743.5	33.2	181.8	221.4	123.8	159.9	219.8	146.0
1996	612.0	625.1	55.5	147.7	252.9	65.0	70.1	803.3	795.3	35.7	204.5	229.1	128.9	171.0	238.8	156.0
1997	679.3	689.2	51.5	158.2	294.5	74.0	77.4	877.3	870.7	39.7	213.8	254.2	140.8	192.9	258.3	170.5
1997: Jan	52.7	53.2	4.4	12.2	22.3	5.8	6.1	70.2	69.9	3.1	18.2	19.6	11.7	15.0	20.8	13.6
Feb	54.3	55.0	4.4	12.7	23.1	6.0	6.3	70.8	70.4	3.1	17.8	19.8	12.0	15.2	20.8	13.7
Mar	56.5	57.5	4.3	13.6	24.3	6.0	6.4	72.3	70.8	3.3	17.9	20.4	11.7	15.3	21.2	13.8
Apr	56.3	57.0	4.3	13.5	24.2	6.1	6.4	72.8	71.8	3.3	17.5	20.9	11.5	16.1	21.4	13.9
May	56.1	57.1	4.1	13.3	24.3	6.0	6.5	73.1	72.2	3.4	17.9	21.0	11.6	15.9	21.7	14.1
June	56.8	57.7	4.1	13.8	24.1	6.3	6.6	72.4	71.5	3.3	17.3	21.0	11.6	15.9	21.7	14.2
July	57.5	58.5	3.9	13.1	25.7	6.3	6.4	73.3	73.1	3.4	17.5	21.6	11.9	16.2	21.6	14.4
Aug	57.1	58.1	4.2	13.4	24.9	6.2	6.5	74.0	73.8	3.4	18.1	21.8	11.7	16.2	22.0	14.4
Sept	57.7	58.5	4.3	13.1	25.4	6.2	6.4	74.3	74.0	3.4	18.0	21.8	11.8	16.6	22.0	14.7
Oct	58.5	59.5	4.5	13.3	25.6	6.4	6.8	74.7	74.5	3.3	18.2	22.2	11.6	16.5	22.1	14.5
Nov	57.5	58.2	4.5	13.1	24.9	6.6	6.5	74.1	73.8	3.3	18.1	21.5	11.7	16.8	21.6	14.6
Dec	58.3	58.8	4.5	13.1	25.8	6.1	6.4	75.3	74.9	3.5	17.2	22.4	11.9	17.3	21.4	14.7
1998: Jan	57.9	58.5	4.2	13.0	25.5	6.5	6.6	75.0	74.4	3.4	17.3	21.9	11.8	17.2	21.8	14.6
Feb	56.4	57.2	4.2	12.6	24.8	6.4	6.4	74.5	74.2	3.5	16.8	22.2	12.2	16.9	21.5	15.0
Mar	57.2	58.1	4.0	12.9	24.9	6.6	6.6	77.7	77.2	3.5	16.7	23.1	13.0	18.2	21.8	14.8
Apr	55.3	56.0	3.8	12.5	23.8	6.5	6.6	76.7	76.3	3.4	17.3	22.3	12.2	18.3	22.4	15.1
May	54.7	55.5	3.7	12.6	23.8	6.0	6.6	77.3	77.0	3.5	17.4	23.1	12.5	17.9	21.9	15.0
June	54.8	55.7	3.8	12.1	24.4	5.6	6.9	75.3	74.9	3.6	16.6	22.2	11.8	18.2	21.5	15.1
July	53.8	54.8	3.7	11.9	24.8	4.7	6.7	74.9	74.5	3.4	16.6	22.3	10.7	18.3	21.2	15.1
Aug	53.9	55.2	3.6	12.0	23.9	5.6	6.7	76.6	75.9	3.4	16.8	22.2	12.2	18.0	21.1	15.1
Sept	56.0	56.9	3.3	11.9	26.1	6.0	6.7	76.8	76.3	3.3	16.5	22.2	13.0	18.0	21.5	15.0
Oct	58.3	59.5	4.0	12.5	26.9	6.0	6.8	78.5	78.0	3.3	16.9	23.0	13.4	18.2	21.9	15.3
Nov[r]	56.8	58.4	3.8	12.4	25.9	6.4	6.5	78.7	78.2	3.3	16.3	23.4	13.6	18.3	21.8	15.4

[1] Department of Defense shipments of grant-aid military supplies and equipment under the Military Assistance Program are excluded from total exports through 1985 and included beginning 1986.

[2] F.a.s. (free alongside ship) value basis at U.S. port of exportation for exports and at foreign port of exportation for imports.

[3] Includes undocumented exports to Canada through 1988. Beginning 1989, undocumented exports to Canada are included in the appropriate end-use category.

[4] Total includes "other" exports or imports, not shown separately.

[5] Total arrivals of imported goods other than intransit shipments.

[6] Total includes revisions not reflected in detail.

[7] Total exports are on a revised statistical month basis; end-use categories are on a statistical month basis.

Note.—Goods on a Census basis are adjusted to a BOP basis by the Bureau of Economic Analysis, in line with concepts and definitions used to prepare international and national accounts. The adjustments are necessary to supplement coverage of Census data, to eliminate duplication of transactions recorded elsewhere in international accounts, and to value transactions according to a standard definition.

Data include trade of the U.S. Virgin Islands.

Source: Department of Commerce (Bureau of the Census and Bureau of Economic Analysis).

TABLE B–107.—*International investment position of the United States at year-end, 1989–97*

[Billions of dollars]

Type of investment	1989	1990	1991	1992	1993	1994	1995	1996	1997
NET INTERNATIONAL INVESTMENT POSITION OF THE UNITED STATES:									
With direct investment at current cost	–222.4	–206.3	–269.1	–398.2	–275.6	–351.9	–603.1	–767.1	–1,223.6
With direct investment at market value	–49.1	–166.8	–263.1	–454.6	–180.4	–232.9	–537.1	–743.7	–1,322.5
U.S. ASSETS ABROAD:									
With direct investment at current cost	2,076.0	2,180.0	2,285.1	2,325.0	2,742.5	2,901.8	3,296.8	3,767.0	4,237.3
With direct investment at market value	2,348.1	2,291.7	2,468.4	2,464.2	3,055.3	3,217.4	3,754.3	4,347.1	5,007.1
U.S. official reserve assets	168.7	174.7	159.2	147.4	164.9	163.4	176.1	160.7	134.8
Gold [1]	105.2	102.4	92.6	87.2	102.6	100.1	101.3	96.7	75.9
Special drawing rights	10.0	11.0	11.2	8.5	9.0	10.0	11.0	10.3	10.0
Reserve position in the International Monetary Fund	9.0	9.1	9.5	11.8	11.8	12.0	14.6	15.4	18.1
Foreign currencies	44.6	52.2	45.9	40.0	41.5	41.2	49.1	38.3	30.8
U.S. Government assets, other than official reserves	84.5	82.0	79.1	80.7	81.0	80.4	81.0	81.7	81.5
U.S. credits and other long-term assets	83.9	81.4	77.5	79.1	79.1	78.2	79.0	79.8	79.6
Repayable in dollars	82.4	80.0	76.3	78.0	78.1	77.5	78.3	79.1	78.9
Other	1.5	1.3	1.2	1.1	1.0	.8	.7	.7	.6
U.S. foreign currency holdings and U.S. short-term assets	.6	.6	1.6	1.6	1.9	2.2	2.0	1.9	1.9
U.S. private assets:									
With direct investment at current cost	1,822.8	1,923.3	2,046.8	2,096.8	2,496.6	2,658.0	3,039.7	3,524.6	4,021.0
With direct investment at market value	2,094.9	2,035.1	2,230.0	2,236.0	2,809.3	2,973.6	3,497.2	4,104.7	4,790.8
Direct investment abroad:									
At current cost	560.4	620.0	644.3	659.4	714.8	752.1	849.7	937.0	1,023.9
At market value	832.5	731.8	827.5	798.6	1,027.5	1,067.8	1,307.2	1,517.1	1,793.7
Foreign securities	314.3	342.3	455.8	515.1	853.5	889.7	1,054.4	1,280.2	1,446.3
Bonds	116.9	144.7	176.8	200.8	309.7	303.1	355.3	403.4	445.0
Corporate stocks	197.3	197.6	279.0	314.3	543.9	586.6	699.1	876.8	1,001.3
U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns	234.3	265.3	256.3	254.3	242.0	323.0	367.6	450.0	562.4
U.S. claims reported by U.S. banks, not included elsewhere	713.8	695.7	690.4	668.0	686.2	693.1	768.1	857.5	988.4
FOREIGN ASSETS IN THE UNITED STATES:									
With direct investment at current cost	2,298.4	2,386.3	2,554.3	2,723.2	3,018.2	3,253.7	3,899.9	4,534.1	5,460.9
With direct investment at market value	2,397.2	2,458.6	2,731.4	2,918.8	3,235.7	3,450.4	4,291.4	5,090.8	6,329.6
Foreign official assets in the United States	341.7	373.3	388.5	437.3	509.4	535.2	671.6	801.1	833.9
U.S. Government securities	263.6	291.2	311.2	329.3	381.7	407.2	497.8	612.7	614.4
U.S. Treasury securities	257.2	285.9	306.0	322.6	373.1	396.9	482.8	592.9	589.9
Other	6.4	5.3	5.2	6.7	8.6	10.3	15.0	19.8	24.5
Other U.S. Government liabilities	15.4	17.2	18.6	20.8	22.1	23.7	23.5	23.1	20.6
U.S. liabilities reported by U.S. banks, not included elsewhere	36.5	39.9	38.4	55.0	69.7	73.4	107.4	113.1	135.0
Other foreign official assets	26.3	24.9	30.3	32.2	35.9	31.0	43.0	52.2	63.9
Other foreign assets in the United States:									
With direct investment at current cost	1,956.7	2,013.0	2,155.7	2,285.9	2,508.7	2,718.5	3,228.3	3,733.0	4,627.0
With direct investment at market value	2,055.5	2,085.3	2,332.9	2,481.5	2,726.3	2,915.2	3,619.7	4,289.7	5,495.7
Direct investment in the United States:									
At current cost	435.9	467.3	491.9	500.5	550.9	561.2	614.3	667.0	751.8
At market value	534.7	539.6	669.1	696.2	768.4	757.9	1,005.7	1,223.7	1,620.5
U.S. Treasury securities	166.5	152.5	170.3	197.7	221.5	235.7	357.7	504.8	662.0
U.S. currency	67.1	85.9	101.3	114.8	133.7	157.2	169.5	186.8	211.6
U.S. securities other than U.S. Treasury securities	482.9	460.6	546.0	599.4	696.4	739.7	971.4	1,199.5	1,578.0
Corporate and other bonds	231.7	238.9	274.1	299.3	355.8	368.1	481.2	588.0	718.1
Corporate stocks	251.2	221.7	271.9	300.2	340.6	371.6	490.1	611.4	859.9
U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns	167.1	213.4	208.5	220.7	229.0	239.8	300.4	346.7	453.6
U.S. liabilities reported by U.S. banks, not included elsewhere	637.1	633.3	637.2	652.7	677.1	784.9	815.0	828.2	970.0

[1] Valued at market price.

Note.—For details regarding these data, see *Survey of Current Business*, July 1998.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–108.—*Industrial production and consumer prices, major industrial countries, 1973–98*

Year or quarter	United States	Canada	Japan	European Union[1]	France	Germany[2]	Italy	United Kingdom
	Industrial production (index, 1992=100)[3]							
1973	70.6	77.0	59.6	77.2	79	73.6	73.9	83.6
1974	69.6	78.5	57.3	77.8	82	73.4	76.8	81.9
1975	63.4	72.8	51.2	72.6	96	68.8	70.0	77.4
1976	69.3	77.6	56.9	78.0	87	75.1	78.5	80.6
1977	74.9	80.3	59.3	79.9	84	76.5	78.0	84.1
1978	79.3	83.0	63.0	82.1	86	78.6	79.7	86.5
1979	82.0	87.1	67.5	85.9	93.0	82.4	85.0	89.9
1980	79.7	84.1	70.6	85.6	93.0	82.6	89.4	84.0
1981	81.0	85.8	71.4	84.0	92.3	81.0	87.4	81.3
1982	76.7	77.4	71.7	82.9	91.4	78.5	84.7	82.9
1983	79.5	82.4	73.9	83.8	90.7	79.0	82.7	85.9
1984	86.6	92.4	80.7	85.6	91.2	81.2	85.4	86.0
1985	88.0	97.6	83.6	88.4	91.3	84.9	86.6	90.7
1986	89.0	96.8	83.5	90.4	91.9	86.6	90.2	92.9
1987	93.2	101.6	86.4	92.3	93.0	86.9	92.6	96.6
1988	97.4	106.9	95.3	96.1	97.3	90.3	99.1	101.3
1989	99.1	106.8	99.9	99.6	100.9	95.0	103.0	103.4
1990	98.9	103.2	104.2	101.6	102.4	100.0	102.2	103.1
1991	97.0	98.9	106.1	101.4	101.2	102.4	101.3	99.7
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	103.5	104.5	95.8	96.7	96.2	92.4	97.9	102.2
1994	109.1	111.3	97.0	101.6	100.0	95.7	104.0	107.7
1995	114.4	116.5	100.2	105.2	102.0	96.8	110.3	109.5
1996	119.5	118.0	102.5	105.4	102.3	97.2	107.2	110.7
1997	126.[e]	124.2	106.1	109.3	106.1	100.5	110.1	111.6
1998[p]	131.4	.....	.....	.....	.....	.....	.....	.....
1997: I	123.7	121.2	106.9	106.8	102.5	98.5	107.6	111.3
II	125.6	123.6	106.8	108.5	105.5	100.0	110.0	111.4
III	127.8	125.7	106.8	110.4	107.7	101.6	110.6	112.1
IV	129.8	126.1	104.3	111.4	109.1	102.4	111.7	111.4
1998: I	130.4	126.4	103.1	112.2	109.9	104.8	111.7	111.2
II	131.3	126.7	98.3	112.9	111.2	105.0	111.5	112.7
III	131.6	126.2	98.1	113.8	111.3	106.8	111.1	112.8
IV[p]	132.6	.....	.....	.....	.....	.....	.....	.....
	Consumer prices (index, 1982–84=100)							
1973	44.4	40.8	47.9	33.5	34.6	62.8	20.6	27.9
1974	49.3	45.2	59.0	38.0	39.3	67.1	24.6	32.3
1975	53.8	50.1	65.9	43.4	43.9	71.1	28.8	40.2
1976	56.9	53.9	72.2	48.6	48.1	74.2	33.6	46.8
1977	60.6	58.1	78.1	54.5	52.7	76.9	40.1	54.2
1978	65.2	63.3	81.4	59.4	57.5	79.0	45.1	58.7
1979	72.6	69.2	84.4	65.6	63.6	82.2	52.1	66.6
1980	82.4	76.1	90.9	74.5	72.3	86.7	63.2	78.5
1981	90.9	85.6	95.3	83.5	81.9	92.2	75.4	87.9
1982	96.5	94.9	98.1	92.3	91.7	97.1	87.7	95.4
1983	99.6	100.4	99.8	100.2	100.4	100.3	100.8	99.8
1984	103.9	104.7	102.1	107.4	106.1	102.7	111.5	104.8
1985	107.6	109.0	104.1	114.0	114.4	104.8	121.1	111.1
1986	109.6	113.5	104.8	118.2	117.3	104.7	128.5	114.9
1987	113.6	118.4	104.8	122.0	121.1	104.9	134.4	119.7
1988	118.3	123.2	105.6	126.5	124.4	106.3	141.1	125.6
1989	124.0	129.3	108.1	133.2	128.7	109.2	150.4	135.3
1990	130.7	135.5	111.4	140.8	133.0	112.2	159.6	148.2
1991	136.2	143.1	115.0	148.1	137.2	116.3	169.8	156.9
1992	140.3	145.3	116.9	154.7	140.5	122.1	178.8	162.7
1993	144.5	147.9	118.4	160.2	143.5	127.6	186.4	165.3
1994	148.2	148.2	119.3	165.2	145.8	131.1	193.7	169.4
1995	152.4	151.4	119.1	170.2	148.4	133.5	204.1	175.1
1996	156.9	153.8	119.3	174.5	151.4	135.5	212.0	179.4
1997	160.5	156.3	121.3	178.0	153.2	137.8	215.7	185.0
1998[p]	163.0	157.8	.....	181.1	154.2	139.2	219.5	191.4
1997: I	159.6	155.7	119.4	176.6	152.7	137.0	214.7	182.0
II	160.2	156.2	121.9	177.5	153.1	137.5	215.5	184.3
III	160.9	156.6	121.9	178.4	153.3	138.5	215.9	186.2
IV	161.8	156.5	122.2	179.1	153.8	138.3	217.1	187.6
1998: I	162.0	157.3	121.7	179.8	153.8	138.6	218.4	188.2
II	162.8	157.8	122.3	181.2	154.7	139.3	219.3	191.7
III	163.5	158.0	121.6	181.5	154.3	139.6	219.8	192.3
IV[p]	164.3	158.2	.....	181.8	154.3	139.1	220.5	193.2

[1] Consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.
[2] Prior to 1991 data are for West Germany only.
[3] All data exclude construction. Quarterly data are seasonally adjusted.

Sources: National sources as reported by Department of Commerce (International Trade Administration, Office of Trade and Economic Analysis), Department of Labor (Bureau of Labor Statistics), and Board of Governors of the Federal Reserve System.

TABLE B–109.—*Civilian unemployment rate, and hourly compensation, major industrial countries, 1973–98*

[Quarterly data seasonally adjusted]

Year or quarter	United States	Canada	Japan	France	Germany [1]	Italy	United Kingdom
	Civilian unemployment rate (Percent) [2]						
1973	4.9	5.5	1.3	2.8	0.7	3.7	3.2
1974	5.6	5.3	1.4	2.9	1.6	3.1	3.1
1975	8.5	6.9	1.9	4.2	3.4	3.4	4.6
1976	7.7	7.2	2.0	4.6	3.4	3.9	5.9
1977	7.1	8.1	2.0	5.2	3.4	4.1	6.4
1978	6.1	8.4	2.3	5.4	3.3	4.1	6.3
1979	5.8	7.5	2.1	6.1	2.9	4.4	5.4
1980	7.1	7.5	2.0	6.5	2.8	4.4	7.0
1981	7.6	7.6	2.2	7.6	4.0	4.9	10.5
1982	9.7	11.0	2.4	8.3	5.6	5.4	11.3
1983	9.6	11.9	2.7	8.6	[3] 6.9	5.9	11.8
1984	7.5	11.3	2.8	10.0	7.1	5.9	11.7
1985	7.2	10.5	2.6	10.5	7.2	6.0	11.2
1986	7.0	9.6	2.8	10.6	6.6	[3] 7.5	11.2
1987	6.2	8.9	2.9	10.8	6.3	7.9	10.3
1988	5.5	7.8	2.5	10.3	6.3	7.9	8.6
1989	5.3	7.5	2.3	9.6	5.7	7.8	7.2
1990	[3] 5.6	8.1	2.1	9.1	5.0	7.0	6.9
1991	6.8	10.4	2.1	9.6	*4.3	[3] 6.9	8.8
1992	7.5	11.3	2.2	[3] 10.4	*4.6	*7.3	10.1
1993	6.9	11.2	2.5	11.8	*5.7	[3] *10.2	10.5
1994	[3] 6.1	10.4	2.9	12.3	*6.5	*11.3	9.7
1995	5.6	9.5	3.2	11.8	*6.5	*12.0	8.7
1996	5.4	9.7	3.4	12.5	*7.2	*12.1	*8.2
1997	4.9	9.2	3.4	*12.4	*7.8	*12.3	*7.0
1998	4.5	.....	.....	.....	.....	.....	.....
1997: I	5.2	9.6	3.3	12.4	7.7	12.3	7.4
II	5.0	9.4	3.4	12.5	7.7	12.3	7.2
III	4.9	9.0	3.4	12.5	7.8	12.2	6.9
IV	4.7	8.9	3.5	12.3	7.8	12.3	6.6
1998: I	4.6	8.6	3.7	12.0	7.7	12.2	6.4
II	4.4	8.4	4.2	11.8	7.5	12.3	6.2
III	4.5	8.3	4.3	11.7	7.4	12.4	6.3
IV	4.4	.....	.....	.....	.....	.....	.....
	Manufacturing hourly compensation in U.S. dollars (Index, 1992=100) [4]						
1973	28.7	26.9	12.5	17.7	17.2	14.9	13.4
1974	31.8	31.9	15.3	19.4	20.0	17.4	15.3
1975	35.7	35.2	17.5	26.6	23.2	21.9	19.4
1976	38.7	41.4	18.8	27.4	24.4	21.4	18.2
1977	42.0	42.6	23.0	30.2	28.9	23.8	19.9
1978	45.4	42.7	31.5	37.2	36.0	28.5	25.6
1979	49.9	45.1	32.0	44.6	42.3	35.3	33.6
1980	55.8	49.9	32.9	51.8	46.3	40.3	44.4
1981	61.3	54.3	36.1	46.6	39.6	36.6	44.9
1982	67.3	59.2	33.5	45.7	38.8	36.2	42.7
1983	69.1	63.1	36.1	43.6	38.7	37.8	39.7
1984	71.5	62.3	37.2	41.3	36.4	37.5	37.8
1985	75.3	62.4	38.5	43.5	37.2	38.8	40.2
1986	78.7	63.6	57.3	58.7	52.6	51.7	49.4
1987	80.9	69.2	68.3	70.2	66.5	62.8	61.2
1988	84.2	77.1	78.4	73.5	70.7	65.0	70.9
1989	86.9	84.9	77.3	72.3	69.2	67.8	69.6
1990	91.0	92.7	79.3	89.2	86.3	86.3	84.3
1991	95.8	99.8	90.3	90.3	89.4	92.5	93.0
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	102.9	93.5	119.3	96.8	100.1	83.9	90.3
1994	105.8	88.8	132.4	101.4	107.7	81.5	93.9
1995	108.3	91.3	147.7	114.3	129.5	84.9	97.1
1996	110.7	93.9	128.8	113.2	128.4	95.4	98.0
1997	115.1	94.9	119.4	102.1	113.9	90.6	106.8

[1] Data are for West Germany only.

[2] Civilian unemployment rates, approximating U.S. concepts. Quarterly data for France and Germany should be viewed as less precise indicators of unemployment under U.S. concepts than the annual data.

[3] There are breaks in the series for Germany (1983), France (1992), Italy (1986, 1991, and 1993), and United States (1990 and 1994). Based on the prior series, the rate for Germany was 7.2 percent in 1983, the rate for France was 10.5 in 1992, 11.9 in 1993, 12.7 in 1994 and 12.3 in 1995, and the rate for Italy was 6.3 percent in 1986 and 6.6 in 1991. The break in 1993 raised Italy's rate by approximately 1 percentage point. For details on break in series in 1990 and 1994 for United States, see footnote 5, Table B–35.

[4] Hourly compensation in manufacturing, U.S. dollar basis. Data relate to all employed persons (wage and salary earners and the self-employed) in the United States, Canada, Japan, France, and Germany, and to all employees (wage and salary earners) in the other countries. For France and United Kingdom, compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–110.—*Foreign exchange rates, 1977–98*

[Currency units per U.S. dollar, except as noted]

Period	Belgium (franc)	Canada (dollar)	France (franc)	Germany (mark)	Italy (lira)	Japan (yen)	Netherlands (guilder)	Sweden (krona)	Switzerland (franc)	United Kingdom (pound)[1]
March 1973	39.408	0.9967	4.5156	2.8132	568.17	261.90	2.8714	4.4294	3.2171	2.4724
1977	35.849	1.0633	4.9161	2.3236	882.78	268.62	2.4548	4.4802	2.4065	1.7449
1978	31.495	1.1405	4.5091	2.0097	849.13	210.39	2.1643	4.5207	1.7907	1.9184
1979	29.342	1.1713	4.2567	1.8343	831.11	219.02	2.0073	4.2893	1.6644	2.1224
1980	29.238	1.1693	4.2251	1.8175	856.21	226.63	1.9875	4.2310	1.6772	2.3246
1981	37.195	1.1990	5.4397	2.2632	1138.58	220.63	2.4999	5.0660	1.9675	2.0243
1982	45.781	1.2344	6.5794	2.4281	1354.00	249.06	2.6719	6.2839	2.0327	1.7480
1983	51.123	1.2325	7.6204	2.5539	1519.32	237.55	2.8544	7.6718	2.1007	1.5159
1984	57.752	1.2952	8.7356	2.8455	1756.11	237.46	3.2085	8.2708	2.3500	1.3368
1985	59.337	1.3659	8.9800	2.9420	1908.88	238.47	3.3185	8.6032	2.4552	1.2974
1986	44.664	1.3896	6.9257	2.1705	1491.16	168.35	2.4485	7.1273	1.7979	1.4677
1987	37.358	1.3259	6.0122	1.7981	1297.03	144.60	2.0264	6.3469	1.4918	1.6398
1988	36.785	1.2306	5.9595	1.7570	1302.39	128.17	1.9778	6.1370	1.4643	1.7813
1989	39.409	1.1842	6.3802	1.8808	1372.28	138.07	2.1219	6.4559	1.6369	1.6382
1990	33.424	1.1668	5.4467	1.6166	1198.27	145.00	1.8215	5.9231	1.3901	1.7841
1991	34.195	1.1460	5.6468	1.6610	1241.28	134.59	1.8720	6.0521	1.4356	1.7674
1992	32.148	1.2085	5.2935	1.5618	1232.17	126.78	1.7587	5.8258	1.4064	1.7663
1993	34.581	1.2902	5.6669	1.6545	1573.41	111.08	1.8585	7.7956	1.4781	1.5016
1994	33.426	1.3664	5.5459	1.6216	1611.49	102.18	1.8190	7.7161	1.3667	1.5319
1995	29.472	1.3725	4.9864	1.4321	1629.45	93.96	1.6044	7.1406	1.1812	1.5785
1996	30.970	1.3638	5.1158	1.5049	1542.76	108.78	1.6863	6.7082	1.2361	1.5607
1997	35.807	1.3849	5.8393	1.7348	1703.81	121.06	1.9525	7.6446	1.4514	1.6376
1998	36.310	1.4836	5.8995	1.7597	1736.85	130.99	1.9837	7.9522	1.4506	1.6573
1997: I	34.190	1.3593	5.5926	1.6575	1637.48	121.16	1.8630	7.3744	1.4357	1.6314
II	35.388	1.3864	5.7813	1.7148	1691.18	119.80	1.9289	7.7099	1.4460	1.6354
III	37.305	1.3850	6.0845	1.8065	1761.83	118.02	2.0340	7.8318	1.4883	1.6254
IV	36.283	1.4087	5.8886	1.7577	1722.20	125.39	1.9809	7.6499	1.4343	1.6587
1998: I	37.558	1.4298	6.0957	1.8190	1792.04	128.23	2.0505	8.0172	1.4767	1.6465
II	37.022	1.4469	6.0162	1.7944	1770.03	135.68	2.0218	7.8181	1.4934	1.6541
III	36.348	1.5136	5.9091	1.7623	1739.18	140.01	1.9874	8.0011	1.4703	1.6531
IV	34.309	1.5430	5.5758	1.6630	1645.88	119.40	1.8749	7.9753	1.3602	1.6758

	Trade-weighted value of the U.S. dollar							
	Nominal				Real[6]			
	G–10 index (March 1973=100)[2]	Broad index (January 1997=100)[3]	Major currencies index (March 1973=100)[4]	OITP index (January 1997=100)[5]	G–10 index (March 1973=100)[2]	Broad index (March 1973=100)[3]	Major currencies index (March 1973=100)[4]	OITP index (March 1973=100)[5]
1977	103.4	34.7	105.3	2.9	93.4	94.1	94.1	93.7
1978	92.4	33.2	96.7	3.1	84.3	88.2	86.9	91.7
1979	88.1	33.7	95.5	3.3	83.3	89.4	88.8	91.2
1980	87.4	34.8	95.3	3.7	85.1	91.5	91.8	91.0
1981	103.4	38.5	104.1	4.2	101.1	98.0	100.8	92.6
1982	116.6	44.8	114.7	5.5	112.0	107.6	109.2	104.3
1983	125.3	50.5	118.6	7.4	117.5	111.6	110.7	113.4
1984	138.2	57.5	126.3	9.7	129.0	118.2	118.0	119.3
1985	143.0	64.5	131.0	13.0	132.8	123.3	122.0	127.0
1986	112.2	60.4	107.9	16.3	103.9	108.6	99.7	132.9
1987	96.9	58.3	95.4	19.2	91.1	99.1	89.2	126.8
1988	92.7	59.0	88.8	23.3	88.5	92.4	84.1	115.8
1989	98.6	65.2	92.4	29.0	94.9	94.0	88.1	110.9
1990	89.1	70.0	88.4	39.1	86.6	91.2	85.1	108.8
1991	89.8	73.1	86.9	45.7	86.9	89.7	83.4	107.8
1992	86.6	76.3	85.4	52.9	83.6	86.8	82.3	101.2
1993	93.2	84.4	87.7	66.0	89.9	88.3	85.0	100.4
1994	91.3	90.4	86.2	80.5	88.6	86.4	84.6	95.5
1995	84.2	92.5	81.4	92.5	82.4	84.0	80.8	95.3
1996	87.3	97.4	85.2	98.2	86.4	85.9	85.8	92.5
1997	96.4	104.5	91.9	104.7	95.9	90.5	93.2	93.6
1998	98.8	116.3	96.5	125.7	98.7	98.4	98.3	105.7
1997: I	93.7	101.5	90.0	100.5	93.4	88.6	91.5	91.1
II	95.7	102.6	91.3	101.3	95.2	89.0	92.4	91.0
III	98.6	104.7	92.5	104.1	98.0	90.6	93.8	92.8
IV	97.5	109.1	93.6	112.9	97.0	93.9	95.0	99.3
1998: I	100.3	115.1	95.9	123.9	100.0	98.2	97.5	106.4
II	100.3	115.7	97.3	122.9	99.9	98.2	99.0	104.3
III	100.2	119.1	99.1	128.3	100.2	100.7	101.2	107.5
IV	94.5	115.1	93.7	127.7	94.8	96.5	95.7	104.8

[1] Value is U.S. dollars per pound.

[2] G–10 comprises the countries shown in this table. Discontinued after December 1998.

[3] The broad index is a weighted average of the foreign exchange value of the dollar against the currencies of a broad group of U.S. trading partners.

[4] Subset of the broad index. Includes G–10 countries plus Spain, Ireland, Austria, Finland, Portugal, and Australia.

[5] Subset of the broad index. Includes other important U.S. trading partners (OITP) whose currencies are not heavily traded outside their home markets.

[6] Adjusted for changes in the consumer price index.

Note.—Certified noon buying rates in New York.

For a discussion of the newly introduced multilateral trade-weighted indexes for the U.S. dollar, see Federal Reserve *Bulletin*, October 1998.

Source: Board of Governors of the Federal Reserve System.

TABLE B–111.—*International reserves, selected years, 1952–98*

[Millions of SDRs; end of period]

Area and country	1952	1962	1972	1982	1992	1996	1997	1998	
								Oct	Nov
All countries	49,188	62,851	146,658	361,239	752,566	1,168,448	1,284,101	1,260,309	.....
Industrial countries[1]	39,280	53,502	113,362	214,025	424,229	574,980	603,332	589,945	.....
United States	24,714	17,220	12,112	29,918	52,995	53,694	52,817	57,539	.....
Canada	1,944	2,561	5,572	3,439	8,662	14,310	13,317	14,283	16,915
Australia	920	1,168	5,656	6,053	8,429	10,350	12,575	10,116	10,904
Japan	1,101	2,021	16,916	22,001	52,937	151,511	163,641	152,118	155,727
New Zealand	183	251	767	577	2,239	4,140	3,299	3,191	.....
Austria	116	1,081	2,505	5,544	9,703	16,277	14,903	15,608	.....
Belgium	1,133	1,753	3,564	4,757	10,914	12,326	12,535	15,521	15,405
Denmark	150	256	787	2,111	8,090	9,892	14,233	10,737	11,196
Finland	132	237	664	1,420	3,862	4,866	6,294	6,098	.....
France	686	4,049	9,224	17,850	22,522	21,500	25,788	33,228	36,091
Germany	960	6,958	21,908	43,909	69,489	61,176	60,835	60,762	64,508
Greece	94	287	950	916	3,606	12,292	9,462	12,582	12,318
Iceland	8	32	78	133	364	317	286	300	299
Ireland	318	359	1,038	2,390	2,514	5,719	4,849	6,010	6,083
Italy	722	4,068	5,605	15,108	22,438	34,287	43,644	29,878	29,081
Netherlands	953	1,943	4,407	10,723	17,492	19,832	19,376	17,332	.....
Norway	164	304	1,220	6,273	8,725	18,482	17,385	15,990	.....
Portugal	603	680	2,129	1,179	14,474	11,632	12,169	12,715	.....
Spain	134	1,045	4,618	7,450	33,640	40,831	51,241	50,611	50,323
Sweden	504	802	1,453	3,397	16,667	13,452	8,188	11,599	.....
Switzerland	1,667	2,919	6,961	16,930	27,100	29,642	31,840	30,399	30,840
United Kingdom	1,956	3,308	5,201	11,904	27,300	28,390	24,596	.....	.....
Developing countries: Total[2]	9,648	9,349	33,295	147,213	328,337	593,469	680,768	670,364	.....
By area:									
Africa	1,786	2,110	3,962	7,737	13,044	21,717	29,042	27,604	.....
Asia[2]	3,793	2,772	8,130	44,490	190,363	344,234	384,420	396,234	.....
Europe	269	381	2,680	5,359	16,006	62,506	72,914	68,271	.....
Middle East	1,183	1,805	9,436	64,039	44,149	56,152	68,465	67,768	.....
Western Hemisphere	2,616	2,282	9,089	25,563	64,774	108,859	125,927	110,487	.....
Memo:									
Oil-exporting countries	1,699	2,030	9,956	67,108	46,144	55,981	63,751	62,978	.....
Non-oil developing countries[2]	7,949	7,319	23,339	80,105	282,193	537,488	617,017	607,386	.....

[1] Includes data for Luxembourg.
[2] Includes data for Taiwan Province of China.

Note.—International reserves is comprised of monetary authorities' holdings of gold (at SDR 35 per ounce), special drawing rights (SDRs), reserve positions in the International Monetary Fund, and foreign exchange.
U.S. dollars per SDR (end of period) are: 1952 and 1962—1.00000; 1972—1.08571; 1982—1.10311; 1992—1.37500; 1996—1.4380; 1997—1.3493; October 1998—1.4084; and November 1998—1.3802.

Source: International Monetary Fund, *International Financial Statistics.*

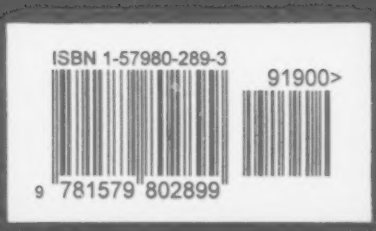
TABLE B–112.—*Growth rates in real gross domestic product, 1980–98*

[Percent change at annual rate]

Area and country	1980–89	1990	1991	1992	1993	1994	1995	1996	1997	1998[1]
World	3.4	2.7	1.8	2.5	2.6	3.9	3.7	4.2	4.1	2.0
Advanced economies	2.9	2.7	1.2	1.9	1.2	3.2	2.5	3.0	3.1	2.0
Major industrial countries	2.7	2.4	.7	1.8	1.0	2.8	2.1	2.8	2.9	2.1
United States	2.7	1.2	–.9	2.7	2.3	3.5	2.3	3.4	3.^	3.5
Japan	3.8	5.1	3.8	1.0	.3	.6	1.5	3.9	.8	–2.5
Germany[2]	1.8	5.7	5.0	2.2	–1.2	2.7	1.2	1.3	2.2	2.6
France	2.3	2.5	.8	1.2	–1.3	2.8	2.1	1.6	2.3	3.1
Italy	2.4	2.2	1.1	.6	–1.2	2.2	2.9	.7	1.5	2.1
United Kingdom[3]	2.4	.4	–2.0	–.5	2.1	4.3	2.7	2.2	3.4	2.3
Canada	2.9	.3	–1.9	.9	2.5	3.9	2.2	1.2	3.7	3.0
Other advanced economies	3.7	4.0	2.9	2.5	2.0	4.6	4.4	3.8	4.2	1.4
Developing countries	4.3	4.0	5.0	6.6	6.5	6.7	6.1	6.6	5.8	2.3
Africa	2.5	2.3	1.9	.4	.7	2.2	3.1	5.8	3.2	3.7
Asia	7.0	5.6	6.6	9.5	9.3	9.6	9.0	8.2	6.6	1.8
Middle East and Europe	2.2	5.6	3.5	6.5	3.9	.7	3.8	4.7	4.7	2.3
Western Hemisphere	2.2	1.0	3.8	3.3	3.9	5.2	1.2	3.5	5.1	2.8
Countries in transition	2.8	–3.5	–7.6	–14.0	–7.3	–7.1	–1.5	–1.0	2.0	–.2
Central and eastern Europe	.....	.....	–10.0	–8.7	–3.8	–2.8	1.6	1.6	2.8	3.4
Russia	.....	.....	–5.4	–19.4	–10.4	–11.6	–4.8	–5.0	.9	–6.0
Transcaucasus and central Asia	.....	.....	–7.0	–14.4	–10.1	–10.3	–4.3	1.6	2.1	4.1

[1] All figures are forecasts as published by the International Monetary Fund.
[2] Through 1991 data are for West Germany only.
[3] Average of expenditure, income, and output estimates of GDP at market prices.

Source: International Monetary Fund.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